

Validation Report

admiral (v0.5.0)

Server: <https://github.com> **Repository:** [epijim/admiral](https://github.com/epijim/admiral)
Reference: [refs/tags/testv1.1.2](https://github.com/epijim/admiral/refs/tags/testv1.1.2)
Commit SHA: [209083a1d43b4aa89c538d68337d59e8bfd7d700](https://github.com/epijim/admiral/commit/209083a1d43b4aa89c538d68337d59e8bfd7d700)

Thu Feb 03 05:26:45 PM 2022

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1 Context

This report was generated via the GH-action [insightengineering/validatoR](https://github.com/insightengineering/validatoR) (gh-action ID: `__insightengineering_thevalidatoR`). It produces automated documentation of the installation of this package on an open source R environment, focussing on:

- Installation environment description
- Testing coverage
- Traceability matrix of specifications (documented behaviours) and testing
- Risk assessment benchmarks

This report is fully automated, so is limited to assess whether unit tests and documentation are present and can execute without error. An assessment would be required that the tests and documentation are meaningful. Validation is system dependent, so specific to the validation environment environment used by this gh-action (see <https://github.com/insightengineering/thevalidatoR/blob/main/Dockerfile> for the base dockerfile, and details in this document for the session info).

2 Installation environment and package

2.1 System Info

Table 1: System info

Field	Value
OS	Ubuntu 20.04.3 LTS
Platform	x86_64-pc-linux-gnu
System	x86_64, linux-gnu
Execution Time	2022-02-03 17:27:11 UTC

2.2 Package installed

Table 2: Git information

Field	Value
branch	HEAD
commit 'SHA1'	209083a1d43b4aa89c538d68337d59e8bfd7d700
commit date	2022-02-03 10:30:38 +0100

2.3 R Session Info

```
sessionInfo()
```

```
R version 4.1.1 (2021-08-10)
```

```
Platform: x86_64-pc-linux-gnu (64-bit)
```

```
Running under: Ubuntu 20.04.3 LTS
```

```
Matrix products: default
```

```
BLAS/LAPACK: /usr/lib/x86_64-linux-gnu/openblas-pthread/libopenblas-p-r0.3.8.so
```

```
locale:
```

```
[1] LC_CTYPE=en_US.UTF-8      LC_NUMERIC=C
[3] LC_TIME=en_US.UTF-8      LC_COLLATE=en_US.UTF-8
[5] LC_MONETARY=en_US.UTF-8  LC_MESSAGES=C
[7] LC_PAPER=en_US.UTF-8     LC_NAME=C
[9] LC_ADDRESS=C              LC_TELEPHONE=C
[11] LC_MEASUREMENT=en_US.UTF-8 LC_IDENTIFICATION=C
```

```
attached base packages:
```

```
[1] stats      graphics  grDevices  utils      datasets  methods    base
```

```
other attached packages:
```

```
[1] kableExtra_1.3.4 knitr_1.37      magrittr_2.0.2
```

```
loaded via a namespace (and not attached):
```

```
[1] xfun_0.29      remotes_2.4.2  purrr_0.3.4    colorspace_2.0-2
[5] vctrs_0.3.8    testthat_3.1.2 usethis_2.1.5  htmltools_0.5.2
[9] viridisLite_0.4.0 yaml_2.2.2    utf8_1.2.2     rlang_1.0.1
[13] pkgbuild_1.3.1 pillar_1.7.0   glue_1.6.1     withr_2.4.3
[17] sessioninfo_1.2.2 lifecycle_1.0.1 stringr_1.4.0  munsell_0.5.0
[21] rvest_1.0.2    devtools_2.4.3 evaluate_0.14   memoise_2.0.1
[25] callr_3.7.0    fastmap_1.1.0 ps_1.6.0       curl_4.3.2
[29] fansi_1.0.2    scales_1.1.1  cachem_1.0.6   desc_1.4.0
```

```
[33] pkgload_1.2.4    webshot_0.5.2    fs_1.5.2        systemfonts_1.0.3
[37] brio_1.1.3       digest_0.6.29   stringi_1.7.6   processx_3.5.2
[41] rprojroot_2.0.2  cli_3.1.1       tools_4.1.1     tibble_3.1.6
[45] crayon_1.4.2     pkgconfig_2.0.3 ellipsis_0.3.2  xml2_1.3.3
[49] prettyunits_1.1.1 rmarkdown_2.11  svglite_2.1.0   httr_1.4.2
[53] rstudioapi_0.13  R6_2.5.1        git2r_0.29.0    compiler_4.1.1
```

```
capabilities()
```

```
      jpeg      png      tiff      tcltk      X11      aqua
      TRUE      TRUE      TRUE      TRUE      FALSE     FALSE
http/ftp sockets  libxml   fifo      cledit   iconv
      TRUE      TRUE      TRUE      TRUE      FALSE     TRUE
      NLS      Rprof   profmem   cairo     ICU long.double
      FALSE     TRUE      TRUE      TRUE      TRUE      TRUE
libcurl
      TRUE
```

3 Metric based risk assessment

The following metrics are derived from the `riskmetric` R package. Metrics overlapping with `covr` and R CMD Check are removed.

Table 3: Package info assessed by the R package `riskmetric`

Metric	Status
NEWS file contains entry for current version number	TRUE
number of discovered vignettes files	22
software is released with an acceptable license	Apache License (≥ 2)
number of downloads in the past year	0

4 Installation documentation

4.1 R CMD check

```
* using log directory ‘/tmp/Rtmp7y7jli/file5ef431a03938/admiral.Rcheck’
* using R version 4.1.1 (2021-08-10)
* using platform: x86_64-pc-linux-gnu (64-bit)
* using session charset: UTF-8
* using options ‘--no-manual --no-build-vignettes’
* checking for file ‘admiral/DESCRIPTION’ ... OK
* checking extension type ... Package
* this is package ‘admiral’ version ‘0.5.0’
* package encoding: UTF-8
* checking package namespace information ... OK
* checking package dependencies ... OK
* checking if this is a source package ... OK
* checking if there is a namespace ... OK
* checking for executable files ... OK
* checking for hidden files and directories ... OK
* checking for portable file names ... OK
* checking for sufficient/correct file permissions ... OK
* checking whether package ‘admiral’ can be installed ... OK
```

```
* checking installed package size ... OK
* checking package directory ... OK
* checking 'build' directory ... OK
* checking DESCRIPTION meta-information ... OK
* checking top-level files ... OK
* checking for left-over files ... OK
* checking index information ... OK
* checking package subdirectories ... OK
* checking R files for non-ASCII characters ... OK
* checking R files for syntax errors ... OK
* checking whether the package can be loaded ... OK
* checking whether the package can be loaded with stated dependencies ... OK
* checking whether the package can be unloaded cleanly ... OK
* checking whether the namespace can be loaded with stated dependencies ... OK
* checking whether the namespace can be unloaded cleanly ... OK
* checking loading without being on the library search path ... OK
* checking dependencies in R code ... NOTE
Namespaces in Imports field not imported from:
  'admiral.test' 'hms'
All declared Imports should be used.
* checking S3 generic/method consistency ... OK
* checking replacement functions ... OK
* checking foreign function calls ... OK
* checking R code for possible problems ... OK
* checking Rd files ... OK
* checking Rd metadata ... OK
* checking Rd cross-references ... OK
* checking for missing documentation entries ... OK
* checking for code/documentation mismatches ... OK
* checking Rd \usage sections ... OK
* checking Rd contents ... OK
* checking for unstated dependencies in examples ... OK
* checking contents of 'data' directory ... OK
* checking data for non-ASCII characters ... OK
* checking LazyData ... OK
* checking data for ASCII and uncompressed saves ... OK
* checking installed files from 'inst/doc' ... OK
* checking files in 'vignettes' ... OK
* checking examples ... OK
* checking for unstated dependencies in 'tests' ... OK
* checking tests ...
  Running 'testthat.R'
OK
* checking for unstated dependencies in vignettes ... OK
* checking package vignettes in 'inst/doc' ... OK
* checking running R code from vignettes ...
  'admiral.Rmd' using 'UTF-8'... OK
  'adsl.Rmd' using 'UTF-8'... OK
  'bds_exposure.Rmd' using 'UTF-8'... OK
  'bds_finding.Rmd' using 'UTF-8'... OK
  'bds_tte.Rmd' using 'UTF-8'... OK
  'contribution_model.Rmd' using 'UTF-8'... OK
  'development_process.Rmd' using 'UTF-8'... OK
  'imputation.Rmd' using 'UTF-8'... OK
```

```
'occds.Rmd' using 'UTF-8'... OK
'queries_dataset.Rmd' using 'UTF-8'... OK
'unit_test_guidance.Rmd' using 'UTF-8'... OK
'writing_vignettes.Rmd' using 'UTF-8'... OK
NONE
* checking re-building of vignette outputs ... SKIPPED
* DONE

Status: 1 NOTE
See
  '/tmp/Rtmp7y7jli/file5ef431a03938/admiral.Rcheck/00check.log'
for details.
```

4.2 Testing Coverage

```
admiral Coverage: 83.86%
R/dataset_vignette.R: 0.00%
R/lifecycle.R: 25.00%
R/compat_friendly_type.R: 25.93%
R/warnings.R: 29.17%
R/iso_dtm.R: 45.45%
R/user_helpers.R: 57.58%
R/assertions.R: 58.97%
R/joins.R: 66.67%
R/call_derivation.R: 68.97%
R/utils.R: 76.58%
R/derive_param_exposure.R: 81.43%
R/duplicates.R: 81.58%
R/derive_vars_age.R: 81.82%
R/derive_var_extreme_flag.R: 86.40%
R/derive_param_tte.R: 92.86%
R/derive_vars_last_dose.R: 98.55%
R/compute_duration.R: 100.00%
R/derive_adeq_params.R: 100.00%
R/derive_advs_params.R: 100.00%
R/derive_date_vars.R: 100.00%
R/derive_derived_param.R: 100.00%
R/derive_param_doseint.R: 100.00%
R/derive_summary_records.R: 100.00%
R/derive_var_ady.R: 100.00%
R/derive_var_aendy.R: 100.00%
```

R/derive_var_anrind.R: 100.00%
R/derive_var_astdy.R: 100.00%
R/derive_var_atirel.R: 100.00%
R/derive_var_base.R: 100.00%
R/derive_var_basetype.R: 100.00%
R/derive_var_chg.R: 100.00%
R/derive_var_disposition_dt.R: 100.00%
R/derive_var_disposition_status.R: 100.00%
R/derive_var_dthcaus.R: 100.00%
R/derive_var_last_dose_amt.R: 100.00%
R/derive_var_last_dose_date.R: 100.00%
R/derive_var_last_dose_grp.R: 100.00%
R/derive_var_last_dose.R: 100.00%
R/derive_var_lstalvdt.R: 100.00%
R/derive_var_obs_number.R: 100.00%
R/derive_var_ontrtfl.R: 100.00%
R/derive_var_pchg.R: 100.00%
R/derive_var_trtdurd.R: 100.00%
R/derive_var_trtedtm.R: 100.00%
R/derive_var_trtsdtm.R: 100.00%
R/derive_vars_disposition_reason.R: 100.00%
R/derive_vars_dtm_to_dt.R: 100.00%
R/derive_vars_dtm_to_tm.R: 100.00%
R/derive_vars_duration.R: 100.00%
R/derive_vars_query.R: 100.00%
R/derive_vars_suppqual.R: 100.00%
R/derive_vars_transposed.R: 100.00%
R/filter_extreme.R: 100.00%
R/test_helpers.R: 100.00%

4.3 Traceability

Traceability matrix that maps each unit test to the corresponding documentation, creating a link between intended use and testing.

4.3.1 Testing matrix

Table 4: Traceability matrix mapping unit tests to documented behaviours.

Test Description	Documentation
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_character_scalar.Rd
a warning is issued when using ‘derive_extreme_flag()’	man/assert_character_scalar.Rd
Ignore Seconds Flag is not used when not present in the function call	man/assert_character_scalar.Rd
Partial date imputed to the mid day/month	man/assert_character_scalar.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/assert_character_scalar.Rd
new observations are derived correctly with Takahira method	man/assert_character_scalar.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/assert_character_scalar.Rd
Multiple Records for each IDVAR	man/assert_character_scalar.Rd
a warning is issued when specifying ‘dthcaus_source(dataset =)’	man/assert_character_scalar.Rd
a warning is issued when specifying ‘lstalvdt_source(dataset =)’	man/assert_character_scalar.Rd
Mosteller method - height and weight vectors	man/assert_character_scalar.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/assert_character_scalar.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/assert_character_scalar.Rd
new observations are derived correctly with Boyd method	man/assert_character_scalar.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/assert_character_scalar.Rd
a warning is issued when using ‘derive_disposition_dt()’	man/assert_character_scalar.Rd
‘tte_source’ objects are printed as intended	man/assert_character_scalar.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_character_scalar.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/assert_character_scalar.Rd
LSTALVDT and traceability variables are derived	man/assert_character_scalar.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_character_scalar.Rd
Gehan-George - height and weight vectors	man/assert_character_scalar.Rd
ASTDY is added	man/assert_character_scalar.Rd
call_derivation works	man/assert_character_scalar.Rd
new observations with analysis datetime are derived correctly	man/assert_character_scalar.Rd
a warning is issued when specifying ‘derive_summary_records(filter_rows =)’	man/assert_character_scalar.Rd
Haycock method - height and weight vectors	man/assert_character_scalar.Rd
Mosteller method - single height and weight values	man/assert_character_scalar.Rd
a warning is issued when using ‘derive_aage()’	man/assert_character_scalar.Rd
duration and unit variable are added	man/assert_character_scalar.Rd
new observations are derived correctly	man/assert_character_scalar.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/assert_character_scalar.Rd
derive_var_last_dose_date returns traceability vars	man/assert_character_scalar.Rd
new observations are derived correctly with Mosteller method	man/assert_character_scalar.Rd
check ‘set_values_to’ mapping	man/assert_character_scalar.Rd
‘dthcaus’ handles symbols and string literals correctly	man/assert_character_scalar.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. (*continued*)

Test Description	Documentation
first observation for each group are selected	man/assert_character_scalar.Rd
new observations based on DTC variables are derived correctly	man/assert_character_scalar.Rd
No re-derivation is done if -DTF variable already exists	man/assert_character_scalar.Rd
new observations are derived correctly with Fujimoto method	man/assert_character_scalar.Rd
a warning is issued when specifying 'lstalvdt_source(date_var =)	man/assert_character_scalar.Rd
DuBois-DuBois method - height and weight vectors	man/assert_character_scalar.Rd
Filter record within 'by_vars'	man/assert_character_scalar.Rd
AENDY is added	man/assert_character_scalar.Rd
ABLFL = Y average records within a subset	man/assert_character_scalar.Rd
a warning is issued when using 'derive_duration()	man/assert_character_scalar.Rd
new observations with analysis date are derived correctly	man/assert_character_scalar.Rd
a warning is issued when specifying 'dthcaus_source(date_var =)	man/assert_character_scalar.Rd
a warning is issued when specifying 'dthcaus_source(traceability_vars =)	man/assert_character_scalar.Rd
Test domain paramter	man/assert_character_scalar.Rd
last observation for each group is flagged, filter works	man/assert_character_scalar.Rd
first observation is selected without grouping	man/assert_character_scalar.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/assert_character_scalar.Rd
Multiple IDVARs, differing types	man/assert_character_scalar.Rd
a warning is issued when specifying 'derive_var_ontrtfl(date =)	man/assert_character_scalar.Rd
set new value to a derived record	man/assert_character_scalar.Rd
derive_vars_last_dose works as expected	man/assert_character_scalar.Rd
derive_agegr_ema works as expected	man/assert_character_scalar.Rd
'target' is set to 'Y' when 'start_date' is NA	man/assert_character_scalar.Rd
Partial date imputed to the first day/month	man/assert_character_scalar.Rd
a warning is issued when using 'derive_obs_number()'	man/assert_character_scalar.Rd
ADY is added	man/assert_character_scalar.Rd
'target' is set to NA when 'start_date' < 'ref_start_date'	man/assert_character_scalar.Rd
Errors	man/assert_character_scalar.Rd
derive_var_last_dose_amt works as expected	man/assert_character_scalar.Rd
IDVAR is missing, join by USUBJID	man/assert_character_scalar.Rd
new observations are derived correctly when zero_doses is NULL	man/assert_character_scalar.Rd
derive_var_age_years works as expected	man/assert_character_scalar.Rd
Derive worst flag works correctly	man/assert_character_scalar.Rd
Fujimoto - height and weight vectors	man/assert_character_scalar.Rd
DTHCAUS is added from AE and DS	man/assert_character_scalar.Rd
new observations are derived correctly with Gehan & George method	man/assert_character_scalar.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/assert_character_scalar.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/assert_character_scalar.Rd
derive_vars_last_dose returns traceability vars	man/assert_character_scalar.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
ABLFL = Y using last observation within a subset	man/assert_character_scalar.Rd
derive_agegr_ema - works as expected	man/assert_character_scalar.Rd
new observations are derived correctly with Haycock method	man/assert_character_scalar.Rd
‘target‘ is set to NA when ‘ref_start_date‘ is NA	man/assert_character_scalar.Rd
an error if issued set_values_to contains invalid expressions	man/assert_character_scalar.Rd
an error is issued if some of the by variables are missing	man/assert_character_scalar.Rd
LSTALVDT is derived for Date class as well	man/assert_character_scalar.Rd
new observations are derived correctly with DuBois & DuBois method	man/assert_character_scalar.Rd
BMI parameter is correctly added to input dataset	man/assert_character_scalar.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/assert_character_scalar.Rd
‘target‘ is set to Y when ‘start_date‘ is before ‘ref_start_date‘ and ‘end_date‘ is before ‘ref_end_date‘ for Period 01	man/assert_character_scalar.Rd
Boyd - height and weight vectors	man/assert_character_scalar.Rd
new observations are derived correctly for AVAL	man/assert_character_scalar.Rd
LSTALVDT is derived	man/assert_character_scalar.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_character_scalar.Rd
Partial date imputed to the last day/month	man/assert_character_scalar.Rd
Takahira - height and weight vectors	man/assert_character_scalar.Rd
ABLFL = Y worst observation = HI within a subset	man/assert_character_scalar.Rd
an error is issued if an invalid method is specified	man/assert_character_scalar.Rd
TRTDURD is added	man/assert_character_scalar.Rd
package templates can be used	man/assert_character_scalar.Rd
first observation for each group is flagged	man/assert_character_scalar.Rd
ABLFL = Y worst observation = LO within a subset	man/assert_character_scalar.Rd
by_vars parameter works correctly	man/assert_character_scalar.Rd
a warning is issued when using ‘derive_params_exposure()’	man/assert_character_scalar.Rd
error is issued if parameter code already exists	man/assert_character_scalar.Rd
derive_agegr_fda works as expected	man/assert_character_scalar.Rd
‘fns‘ as inlined	man/assert_character_scalar.Rd
a warning is issued when using ‘derive_suppqual_vars()’	man/assert_character_scalar.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_character_scalar.Rd
Partial date imputed to the last day/month, no DTF	man/assert_character_scalar.Rd
creates a new record for each group and new data frame retains grouping	man/assert_character_scalar.Rd
an error is issued all by variables are missing in all source datasets	man/assert_character_scalar.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/assert_character_scalar.Rd
Derive RFICDT	man/assert_character_scalar.Rd
new observations are derived correctly when zero_doses is Y	man/assert_character_scalar.Rd
Derive worst flag works correctly with no worst_high option	man/assert_character_scalar.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
‘target‘ is set to ‘Y‘ when ‘start_date‘ >= ‘ref_start_date‘ and ‘ref_end_date‘ and ‘filter_pre_timepoint‘ are not specified	man/assert_character_scalar.Rd
‘target‘ is set to ‘Y‘ when ‘filter_pre_timepoint‘ is not ‘PRE‘ and ‘start_date‘ = ‘ref_start_date‘ and ‘ref_end_date‘ is not specified	man/assert_character_scalar.Rd
‘target‘ is set to NA when ‘end_date‘ < ‘ref_start_date‘ regardless of start_date being NA	man/assert_character_scalar.Rd
TRTEDTM variable is added	man/assert_character_scalar.Rd
TRTSDTM variable is added	man/assert_character_scalar.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/assert_character_scalar.Rd
‘target‘ is set to ‘Y‘ when ‘start_date‘ >= ‘ref_start_date‘ and ‘start_date‘ <= ‘ref_end_date‘ and no ‘ref_end_window‘ is specified, otherwise NA	man/assert_character_scalar.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/assert_character_scalar.Rd
a warning is issued when specifying ‘derive_var_extreme_flag(flag_filter =)‘	man/assert_character_scalar.Rd
‘target‘ is set to ‘Y‘ when ‘end_date‘ > ‘ref_start_date‘ when ‘start_date‘ is missing	man/assert_character_scalar.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/assert_character_scalar.Rd
derive_var_last_dose_amt returns traceability vars	man/assert_character_scalar.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/assert_character_scalar.Rd
derive_last_dose_date works as expected	man/assert_character_scalar.Rd
‘target‘ is set to Y when ‘end_date‘ is missing and ‘start_date‘ is before ‘ref_start_date‘ a la GSK	man/assert_character_scalar.Rd
‘target‘ is set to ‘Y‘ when ‘start_date‘ >= ‘ref_start_date‘ and ‘start_date‘ <= ‘ref_end_date‘ + ‘ref_end_window‘	man/assert_character_scalar.Rd
Derive DTHDTC from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/assert_character_scalar.Rd
error on a dthcaus_source object with invalid mode	man/assert_character_scalar.Rd
‘target‘ is set to NA when ‘end_date‘ is missing and ‘start_date‘ is before ‘ref_start_date‘ a la Roche	man/assert_character_scalar.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_character_vector.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_character_vector.Rd
derive_var_last_dose_amt returns traceability vars	man/assert_character_vector.Rd
a warning is issued when using ‘derive_last_dose()‘	man/assert_character_vector.Rd
‘target‘ is set to ‘Y‘ when ‘end_date‘ > ‘ref_start_date‘ when ‘start_date‘ is missing	man/assert_character_vector.Rd
‘target‘ is set to ‘Y‘ when ‘start_date‘ >= ‘ref_start_date‘ and ‘start_date‘ <= ‘ref_end_date‘ + ‘ref_end_window‘	man/assert_character_vector.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/assert_character_vector.Rd
an error if issued set_values_to contains invalid expressions	man/assert_character_vector.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/assert_character_vector.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
derive_var_last_dose_amt works as expected	man/assert_character_vector.Rd
Convert a complete – DTC into a date time object	man/assert_character_vector.Rd
‘target’ is set to NA when ‘end_date’ < ‘ref_start_date’ regardless of start_date being NA	man/assert_character_vector.Rd
a warning is issued when specifying ‘derive_var_extreme_flag(flag_filter =)’	man/assert_character_vector.Rd
derive_var_last_dose works as expected	man/assert_character_vector.Rd
Impute incomplete – DTC into a date time object	man/assert_character_vector.Rd
duration and unit variable are added	man/assert_character_vector.Rd
compute TMF	man/assert_character_vector.Rd
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/assert_character_vector.Rd
Partial date imputed to the first day/month	man/assert_character_vector.Rd
Boyd - height and weight vectors	man/assert_character_vector.Rd
a warning is issued when using ‘derive_age()’	man/assert_character_vector.Rd
Gehan-George - height and weight vectors	man/assert_character_vector.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/assert_character_vector.Rd
new observations are derived correctly	man/assert_character_vector.Rd
Errors	man/assert_character_vector.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_character_vector.Rd
‘target’ is set to ‘Y’ when ‘start_date’ is NA	man/assert_character_vector.Rd
new observations are derived correctly with DuBois & DuBois method	man/assert_character_vector.Rd
LSTALVDT and traceability variables are derived	man/assert_character_vector.Rd
derive_agegr_fda works as expected	man/assert_character_vector.Rd
derive_var_age_years works as expected	man/assert_character_vector.Rd
a warning is issued when specifying ‘dthcaus_source(dataset =)’	man/assert_character_vector.Rd
call_derivation works	man/assert_character_vector.Rd
LSTALVDT is derived	man/assert_character_vector.Rd
‘target’ is set to ‘Y’ when ‘start_date’ >= ‘ref_start_date’ and ‘ref_end_date’ and ‘filter_pre_timepoint’ are not specified	man/assert_character_vector.Rd
last observation for each group is flagged, filter works	man/assert_character_vector.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/assert_character_vector.Rd
derive_last_dose_date works as expected	man/assert_character_vector.Rd
derive_var_last_dose works as expected with dates only	man/assert_character_vector.Rd
new observations are derived correctly when zero_doses is Y	man/assert_character_vector.Rd
a warning is issued when specifying ‘lstalvdt_source(dataset =)’	man/assert_character_vector.Rd
Derive worst flag catches invalid parameters	man/assert_character_vector.Rd
new observations with analysis datetime are derived correctly	man/assert_character_vector.Rd
an error is issued if an invalid method is specified	man/assert_character_vector.Rd
an error is issued if some of the by variables are missing	man/assert_character_vector.Rd
a warning is issued when using ‘derive_duration()’	man/assert_character_vector.Rd
error is issued if parameter code already exists	man/assert_character_vector.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Ignore Seconds Flag is not used when not present in the function call	man/assert_character_vector.Rd
Haycock method - height and weight vectors	man/assert_character_vector.Rd
first observation is selected without grouping	man/assert_character_vector.Rd
derive_var_last_dose_date returns traceability vars	man/assert_character_vector.Rd
DuBois-DuBois method - height and weight vectors	man/assert_character_vector.Rd
new observations based on DTC variables are derived correctly	man/assert_character_vector.Rd
'target' is set to NA when 'ref_start_date' is NA	man/assert_character_vector.Rd
a warning is issued when specifying 'derive_summary_records(filter_rows =)	man/assert_character_vector.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_character_vector.Rd
DTHCAUS is added from AE and DS	man/assert_character_vector.Rd
'dthcaus' handles symbols and string literals correctly	man/assert_character_vector.Rd
TRTDURD is added	man/assert_character_vector.Rd
derive_agegr_ema works with age_unit missing and multiple units in AGEU (adults)	man/assert_character_vector.Rd
package templates can be used	man/assert_character_vector.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/assert_character_vector.Rd
Fujimoto - height and weight vectors	man/assert_character_vector.Rd
'target' is set to NA when 'start_date' < 'ref_start_date'	man/assert_character_vector.Rd
a warning is issued when using 'derive_params_exposure()	man/assert_character_vector.Rd
new observations are derived correctly with Takahira method	man/assert_character_vector.Rd
Takahira - height and weight vectors	man/assert_character_vector.Rd
ABLFL = Y worst observation = LO within a subset	man/assert_character_vector.Rd
derive_var_last_dose returns traceability vars	man/assert_character_vector.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/assert_character_vector.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/assert_character_vector.Rd
a warning is issued when using 'derive_suppqual_vars()	man/assert_character_vector.Rd
derive_agegr_ema - works as expected	man/assert_character_vector.Rd
a warning is issued when specifying 'dthcaus_source(traceability_vars =)	man/assert_character_vector.Rd
a warning is issued when using 'derive_obs_number()'	man/assert_character_vector.Rd
'target' is set to 'Y' when 'filter_pre_timepoint' is not 'PRE' and 'start_date' = 'ref_start_date' and 'ref_end_date' is not specified	man/assert_character_vector.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' and no 'ref_end_window' is specified, otherwise NA	man/assert_character_vector.Rd
a warning is issued when specifying 'dthcaus_source(date_var =)	man/assert_character_vector.Rd
'target' is set to NA when 'end_date' is missing and 'start_date' is before 'ref_start_date' a la Roche	man/assert_character_vector.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/assert_character_vector.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
TRTSDTM variable is added	man/assert_character_vector.Rd
no new observations are added if a parameter is missing	man/assert_character_vector.Rd
new observations are derived correctly when zero_doses is NULL	man/assert_character_vector.Rd
Mosteller method - height and weight vectors	man/assert_character_vector.Rd
an error is issued all by variables are missing in all source datasets	man/assert_character_vector.Rd
first observation for each group is flagged	man/assert_character_vector.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/assert_character_vector.Rd
ASTDY is added	man/assert_character_vector.Rd
error on a dthcaus_source object with invalid mode	man/assert_character_vector.Rd
No re-derivation is done if -DTF variable already exists	man/assert_character_vector.Rd
Mosteller method - single height and weight values	man/assert_character_vector.Rd
a warning is issued when using 'derive_extreme_flag()'	man/assert_character_vector.Rd
BMI parameter is correctly added to input dataset	man/assert_character_vector.Rd
new observations are derived correctly with Mosteller method	man/assert_character_vector.Rd
new observations are derived correctly with constant parameters	man/assert_character_vector.Rd
no new observations are added if filtered dataset is empty	man/assert_character_vector.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/assert_character_vector.Rd
Derive worst flag works correctly	man/assert_character_vector.Rd
new observations are derived correctly with Boyd method	man/assert_character_vector.Rd
a warning is issued when specifying 'lstalvdt_source(date_var =)	man/assert_character_vector.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/assert_character_vector.Rd
Partial date imputed to the mid day/month	man/assert_character_vector.Rd
derive_agegr_ema works as expected	man/assert_character_vector.Rd
a warning is issued when specifying 'derive_var_ontrfl(date =)	man/assert_character_vector.Rd
'fns' as inlined	man/assert_character_vector.Rd
check 'set_values_to' mapping	man/assert_character_vector.Rd
by_vars parameter works correctly	man/assert_character_vector.Rd
TRTEDTM variable is added	man/assert_character_vector.Rd
'target' is set to Y when 'start_date' is before 'ref_start_date' and 'end_date' is before 'ref_end_date' for Period 01	man/assert_character_vector.Rd
ABLFL = Y average records within a subset	man/assert_character_vector.Rd
derive_vars_last_dose when multiple doses on same date - error	man/assert_character_vector.Rd
first observation for each group are selected	man/assert_character_vector.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/assert_character_vector.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/assert_character_vector.Rd
ABLFL = Y worst observation = HI within a subset	man/assert_character_vector.Rd
Derive worst flag works correctly with no worst_high option	man/assert_character_vector.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_character_vector.Rd
LSTALVDT is derived for Date class as well	man/assert_character_vector.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/assert_character_vector.Rd
Filter record within ‘by_vars’	man/assert_character_vector.Rd
Convert – DT into a date time object	man/assert_character_vector.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/assert_character_vector.Rd
Multiple IDVARs, differing types	man/assert_character_vector.Rd
an error is issued if PARAMCD is not set	man/assert_character_vector.Rd
ABLFL = Y using last observation within a subset	man/assert_character_vector.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/assert_character_vector.Rd
derive_vars_last_dose returns traceability vars	man/assert_character_vector.Rd
‘tte_source’ objects are printed as intended	man/assert_character_vector.Rd
‘target’ is set to Y when ‘end_date’ is missing and ‘start_date’ is before ‘ref_start_date’ a la GSK	man/assert_character_vector.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/assert_character_vector.Rd
new observations are derived correctly with Gehan & George method	man/assert_character_vector.Rd
new observations are derived correctly with Fujimoto method	man/assert_character_vector.Rd
new observations are derived correctly for AVAL	man/assert_character_vector.Rd
new observations with analysis date are derived correctly	man/assert_character_vector.Rd
AENDY is added	man/assert_character_vector.Rd
Partial date imputed to the last day/month	man/assert_character_vector.Rd
a warning is issued when using ‘derive_disposition_dt()’	man/assert_character_vector.Rd
Partial date imputed to the last day/month, no DTF	man/assert_character_vector.Rd
derive_vars_last_dose works as expected	man/assert_character_vector.Rd
set new value to a derived record	man/assert_character_vector.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/assert_character_vector.Rd
new observations are derived correctly with Haycock method	man/assert_character_vector.Rd
ADY is added	man/assert_character_vector.Rd
derive_vars_last_dose checks validity of start and end dose inputs	man/assert_character_vector.Rd
IDVAR is missing, join by USUBJID	man/assert_character_vector.Rd
Test domain paramter	man/assert_character_vector.Rd
creates a new record for each group and new data frame retains grouping	man/assert_character_vector.Rd
Multiple Records for each IDVAR	man/assert_character_vector.Rd
Derive RFICDT	man/assert_character_vector.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/assert_character_vector.Rd
TRTEDTM variable is added	man/assert_data_frame.Rd
a warning is issued when using ‘derive_disposition_dt()’	man/assert_data_frame.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_data_frame.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
an error is issued if some of the by variables are missing	man/assert_data_frame.Rd
a warning is issued when using ‘derive_disposition_status()’	man/assert_data_frame.Rd
a warning is issued when using ‘derive_baseline()’	man/assert_data_frame.Rd
derive_vars_disposition_reason checks new_var_spe and reason_var_spe	man/assert_data_frame.Rd
TRTSDTM variable is added	man/assert_data_frame.Rd
LSTALVDT is derived for Date class as well	man/assert_data_frame.Rd
a warning is issued when using ‘derive_var_basec()’	man/assert_data_frame.Rd
an error is issued all by variables are missing in all source datasets	man/assert_data_frame.Rd
a warning is issued when using ‘derive_extreme_flag()’	man/assert_data_frame.Rd
a warning is issued when using ‘derive_obs_number()’	man/assert_data_frame.Rd
‘target’ is set to NA when ‘end_date’ < ‘ref_start_date’ regardless of start_date being NA	man/assert_data_frame.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/assert_data_frame.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_data_frame.Rd
‘target’ is set to NA when ‘end_date’ is missing and ‘start_date’ is before ‘ref_start_date’ a la Roche	man/assert_data_frame.Rd
Errors	man/assert_data_frame.Rd
‘target’ is set to Y when ‘end_date’ is missing and ‘start_date’ is before ‘ref_start_date’ a la GSK	man/assert_data_frame.Rd
by_vars parameter works correctly	man/assert_data_frame.Rd
‘target’ is set to ‘Y’ when ‘start_date’ >= ‘ref_start_date’ and ‘start_date’ <= ‘ref_end_date’ and no ‘ref_end_window’ is specified, otherwise NA	man/assert_data_frame.Rd
Derive worst flag catches invalid parameters	man/assert_data_frame.Rd
new observations are derived correctly with Takahira method	man/assert_data_frame.Rd
derive_agegr_fda works as expected	man/assert_data_frame.Rd
derive_var_last_dose_date returns traceability vars	man/assert_data_frame.Rd
first observation for each group is flagged	man/assert_data_frame.Rd
an error is issued if PARAMCD is not set	man/assert_data_frame.Rd
a warning is issued when using ‘derive_query_vars()’	man/assert_data_frame.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/assert_data_frame.Rd
call_derivation works	man/assert_data_frame.Rd
a warning is issued when using ‘derive_suppqual_vars()’	man/assert_data_frame.Rd
a warning is issued when using ‘derive_aage()’	man/assert_data_frame.Rd
Derive DCSREAS using default mapping	man/assert_data_frame.Rd
derive_var_last_dose_amt works as expected	man/assert_data_frame.Rd
Convert a complete – DTM into –TM, TM out is HH:MM:SS	man/assert_data_frame.Rd
‘target’ is set to ‘Y’ when ‘start_date’ is NA	man/assert_data_frame.Rd
‘target’ is set to ‘Y’ when ‘filter_pre_timepoint’ is not ‘PRE’ and ‘start_date’ = ‘ref_start_date’ and ‘ref_end_date’ is not specified	man/assert_data_frame.Rd
Convert a complete – DTM into a date object	man/assert_data_frame.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
a warning is issued when specifying 'derive_summary_records(filter_rows =)	man/assert_data_frame.Rd
new observations are derived correctly	man/assert_data_frame.Rd
a warning is issued when using 'derive_last_dose()'	man/assert_data_frame.Rd
an error if issued set_values_to contains invalid expressions	man/assert_data_frame.Rd
derive_var_last_dose_amt returns traceability vars	man/assert_data_frame.Rd
ASTDY is added	man/assert_data_frame.Rd
'target' is set to 'Y' when 'end_date' > 'ref_start_date' when 'start_date' is missing	man/assert_data_frame.Rd
a warning is issued when specifying 'derive_var_ontrfl(date =)	man/assert_data_frame.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' + 'ref_end_window'	man/assert_data_frame.Rd
new observations based on DTC variables are derived correctly	man/assert_data_frame.Rd
derive_var_last_dose works as expected with dates only	man/assert_data_frame.Rd
ABLFL = Y worst observation = LO within a subset	man/assert_data_frame.Rd
new observations are derived correctly with Fujimoto method	man/assert_data_frame.Rd
Derive ATIREL	man/assert_data_frame.Rd
duration and unit variable are added	man/assert_data_frame.Rd
AENDY is added	man/assert_data_frame.Rd
a warning is issued when using 'derive_duration()	man/assert_data_frame.Rd
'PCHG' is calculated as '(AVAL - BASE) / abs(BASE) * 100'	man/assert_data_frame.Rd
Derive RFICDT	man/assert_data_frame.Rd
'PCHG' is set to 'NA' if 'BASE == 0'	man/assert_data_frame.Rd
new observations are derived correctly with Boyd method	man/assert_data_frame.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/assert_data_frame.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/assert_data_frame.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/assert_data_frame.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/assert_data_frame.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'ref_end_date' and 'filter_pre_timepoint' are not specified	man/assert_data_frame.Rd
'target' is set to Y when 'start_date' is before 'ref_start_date' and 'end_date' is before 'ref_end_date' for Period 01	man/assert_data_frame.Rd
derive_var_last_dose checks validity of start and end dose inputs	man/assert_data_frame.Rd
Partial date imputed to the last day/month, no DTF	man/assert_data_frame.Rd
derive_var_last_dose returns traceability vars	man/assert_data_frame.Rd
derive_var_age_years works as expected	man/assert_data_frame.Rd
Partial date imputed to the first day/month	man/assert_data_frame.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_data_frame.Rd
TRTDURD is added	man/assert_data_frame.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/assert_data_frame.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Partial date imputed to the last day/month	man/assert_data_frame.Rd
new observations are derived correctly when zero_doses is Y	man/assert_data_frame.Rd
first observation for each group are selected	man/assert_data_frame.Rd
ABLFL = Y worst observation = HI within a subset	man/assert_data_frame.Rd
ABLFL = Y using last observation within a subset	man/assert_data_frame.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = FALSE)	man/assert_data_frame.Rd
BMI parameter is correctly added to input dataset	man/assert_data_frame.Rd
Partial date imputed to the mid day/month	man/assert_data_frame.Rd
'target' is set to NA when 'ref_start_date' is NA	man/assert_data_frame.Rd
'target' is set to NA when 'start_date' < 'ref_start_date'	man/assert_data_frame.Rd
new observations with analysis datetime are derived correctly	man/assert_data_frame.Rd
An error is thrown if a subject has multiple records per 'PARAMCD' and 'BASETYPE'	man/assert_data_frame.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/assert_data_frame.Rd
new observations are derived correctly when zero_doses is NULL	man/assert_data_frame.Rd
no new observations are added if a parameter is missing	man/assert_data_frame.Rd
no new observations are added if filtered dataset is empty	man/assert_data_frame.Rd
one-sided reference ranges work	man/assert_data_frame.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/assert_data_frame.Rd
new observations with analysis date are derived correctly	man/assert_data_frame.Rd
new observations are derived correctly with constant parameters	man/assert_data_frame.Rd
a warning is issued when specifying 'derive_var_extreme_flag(flag_filter =)'	man/assert_data_frame.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_data_frame.Rd
derive_last_dose_date works as expected	man/assert_data_frame.Rd
LSTALVDT and traceability variables are derived	man/assert_data_frame.Rd
an error is issued if an invalid method is specified	man/assert_data_frame.Rd
'dthcaus' handles symbols and string literals correctly	man/assert_data_frame.Rd
new observations are derived correctly for AVAL	man/assert_data_frame.Rd
derive_var_last_dose works as expected	man/assert_data_frame.Rd
LSTALVDT is derived	man/assert_data_frame.Rd
Derive decides between TERM_NAME and TERM_ID based on the type of the variable	man/assert_data_frame.Rd
a warning is issued when using 'derive_disposition_reason()'	man/assert_data_frame.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/assert_data_frame.Rd
first observation is selected without grouping	man/assert_data_frame.Rd
missing 'AVAL' is handled properly	man/assert_data_frame.Rd
Derive EOTSTT using a study specific mapping	man/assert_data_frame.Rd
Derive EOSSTT using default mapping	man/assert_data_frame.Rd
last observation for each group is flagged, filter works	man/assert_data_frame.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_data_frame.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. (*continued*)

Test Description	Documentation
derive_vars_last_dose checks validity of start and end dose inputs	man/assert_data_frame.Rd
implicitly missing extreme ranges are supported	man/assert_data_frame.Rd
‘CHG’ is calculated as ‘AVAL - BASE’	man/assert_data_frame.Rd
derive_agegr_ema works with age_unit missing and multiple units in AGEU (adults)	man/assert_data_frame.Rd
explicitly missing extreme ranges are supported	man/assert_data_frame.Rd
Derive worst flag works correctly with no worst_high option	man/assert_data_frame.Rd
error is issued if parameter code already exists	man/assert_data_frame.Rd
ADY is added	man/assert_data_frame.Rd
‘target’ is set to ‘source’ where ‘ABLFL == ’Y’	man/assert_data_frame.Rd
‘target’ is set to ‘NA’ if a baseline record is missing	man/assert_data_frame.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/assert_data_frame.Rd
DTHCAUS is added from AE and DS	man/assert_data_frame.Rd
two-sided reference ranges work	man/assert_data_frame.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/assert_data_frame.Rd
new observations are derived correctly with Haycock method	man/assert_data_frame.Rd
new observations are derived correctly with DuBois & DuBois method	man/assert_data_frame.Rd
derive_agegr_ema works as expected	man/assert_data_frame.Rd
Derive worst flag works correctly	man/assert_data_frame.Rd
new observations are derived correctly with Gehan & George method	man/assert_data_frame.Rd
derive_vars_last_dose works as expected	man/assert_data_frame.Rd
derive_vars_last_dose returns traceability vars	man/assert_data_frame.Rd
Derive when dataset does not have a unique key when excluding ‘TERM_LEVEL’ columns	man/assert_data_frame.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/assert_data_frame.Rd
Test domain paramter	man/assert_data_frame.Rd
ABLFL = Y average records within a subset	man/assert_data_frame.Rd
Filter record within ‘by_vars’	man/assert_data_frame.Rd
new observations are derived correctly with Mosteller method	man/assert_data_frame.Rd
a warning is issued when using ‘derive_params_exposure()’	man/assert_data_frame.Rd
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/assert_data_frame.Rd
derive_agegr_ema - works as expected	man/assert_data_frame.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/assert_data_frame.Rd
records that do not match any condition are kept	man/assert_data_frame.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/assert_data_frame.Rd
Derive CQ and SMQ variables with two term levels	man/assert_data_frame.Rd
set new value to a derived record	man/assert_data_frame.Rd
No re-derivation is done if -DTF variable already exists	man/assert_data_frame.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Ignore Seconds Flag is not used when set to FALSE in function call	man/assert_data_frame.Rd
derive_vars_last_dose when multiple doses on same date - error	man/assert_data_frame.Rd
Derive when query dataset does not have QUERY_ID or QUERY_SCOPE column	man/assert_data_frame.Rd
Multiple IDVARs, differing types	man/assert_data_frame.Rd
Derive when an adverse event is in multiple baskets	man/assert_data_frame.Rd
‘fns’ as inlined	man/assert_data_frame.Rd
check ‘set_values_to’ mapping	man/assert_data_frame.Rd
creates a new record for each group and new data frame retains grouping	man/assert_data_frame.Rd
only the ‘target’ variable is added to the input dataset	man/assert_data_frame.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/assert_data_frame.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/assert_data_frame.Rd
IDVAR is missing, join by USUBJID	man/assert_data_frame.Rd
Ignore Seconds Flag is not used when not present in the function call	man/assert_data_frame.Rd
input is filtered if filter is not NULL	man/assert_data_frame.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/assert_data_frame.Rd
ATC variables are merged properly	man/assert_data_frame.Rd
input is returned as is if filter is NULL	man/assert_data_frame.Rd
records are duplicated across different ‘BASETYPE’ values	man/assert_data_frame.Rd
filtering the merge dataset works	man/assert_data_frame.Rd
Multiple Records for each IDVAR	man/assert_data_frame.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/assert_data_frame.Rd
the merge dataset is transposed and merged correctly	man/assert_data_frame.Rd
‘target’ is set to NA when ‘start_date’ < ‘ref_start_date’	man/assert_filter_cond.Rd
‘fns’ as inlined	man/assert_filter_cond.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/assert_filter_cond.Rd
by_vars parameter works correctly	man/assert_filter_cond.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/assert_filter_cond.Rd
derive_var_last_dose_amt works as expected	man/assert_filter_cond.Rd
ABLFL = Y worst observation = LO within a subset	man/assert_filter_cond.Rd
set new value to a derived record	man/assert_filter_cond.Rd
creates a new record for each group and new data frame retains grouping	man/assert_filter_cond.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_filter_cond.Rd
TRTSDTM variable is added	man/assert_filter_cond.Rd
an error is issued all by variables are missing in all source datasets	man/assert_filter_cond.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
LSTALVDT is derived for Date class as well	man/assert_filter_cond.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/assert_filter_cond.Rd
LSTALVDT is derived	man/assert_filter_cond.Rd
no new observations are added if a parameter is missing	man/assert_filter_cond.Rd
‘tte_source’ objects are printed as intended	man/assert_filter_cond.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_filter_cond.Rd
‘target’ is set to ‘Y’ when ‘filter_pre_timepoint’ is not ‘PRE’ and ‘start_date’ = ‘ref_start_date’ and ‘ref_end_date’ is not specified	man/assert_filter_cond.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_filter_cond.Rd
ABLFL = Y worst observation = HI within a subset	man/assert_filter_cond.Rd
derive_var_last_dose_amt returns traceability vars	man/assert_filter_cond.Rd
Derive DCSREAS using default mapping	man/assert_filter_cond.Rd
error is issued if parameter code already exists	man/assert_filter_cond.Rd
Derive EOTSTT using a study specific mapping	man/assert_filter_cond.Rd
ABLFL = Y using last observation within a subset	man/assert_filter_cond.Rd
new observations are derived correctly with Mosteller method	man/assert_filter_cond.Rd
BMI parameter is correctly added to input dataset	man/assert_filter_cond.Rd
no new observations are added if filtered dataset is empty	man/assert_filter_cond.Rd
LSTALVDT and traceability variables are derived	man/assert_filter_cond.Rd
derive_var_last_dose works as expected	man/assert_filter_cond.Rd
‘target’ is set to NA when ‘ref_start_date’ is NA	man/assert_filter_cond.Rd
assert_filter_cond works as expected	man/assert_filter_cond.Rd
ABLFL = Y average records within a subset	man/assert_filter_cond.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_filter_cond.Rd
TRTEDTM variable is added	man/assert_filter_cond.Rd
an error if issued set_values_to contains invalid expressions	man/assert_filter_cond.Rd
Derive EOSSTT using default mapping	man/assert_filter_cond.Rd
a warning is issued when specifying ‘derive_summary_records(filter_rows =)’	man/assert_filter_cond.Rd
An error is thrown if a subject has multiple records per ‘PARAMCD’ and ‘BASETYPE’	man/assert_filter_cond.Rd
Derive worst flag catches invalid parameters	man/assert_filter_cond.Rd
a warning is issued when using ‘derive_disposition_reason()’	man/assert_filter_cond.Rd
error on a dthcaus_source object with invalid mode	man/assert_filter_cond.Rd
derive_var_last_dose_date returns traceability vars	man/assert_filter_cond.Rd
derive_var_last_dose returns traceability vars	man/assert_filter_cond.Rd
‘target’ is set to Y when ‘end_date’ is missing and ‘start_date’ is before ‘ref_start_date’ a la GSK	man/assert_filter_cond.Rd
‘target’ is set to ‘Y’ when ‘end_date’ > ‘ref_start_date’ when ‘start_date’ is missing	man/assert_filter_cond.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/assert_filter_cond.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
new observations with analysis datetime are derived correctly	man/assert_filter_cond.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/assert_filter_cond.Rd
Derive worst flag works correctly with no worst_high option	man/assert_filter_cond.Rd
‘target‘ is set to ‘NA‘ if a baseline record is missing	man/assert_filter_cond.Rd
Derive RFICDT	man/assert_filter_cond.Rd
check ‘set_values_to‘ mapping	man/assert_filter_cond.Rd
last observation for each group is flagged, filter works	man/assert_filter_cond.Rd
assert_filter_cond works as expected	man/assert_filter_cond.Rd
‘target‘ is set to ‘source‘ where ‘ABLFL == ‘Y‘	man/assert_filter_cond.Rd
Errors	man/assert_filter_cond.Rd
‘target‘ is set to Y when ‘start_date‘ is before ‘ref_start_date‘ and ‘end_date‘ is before ‘ref_end_date‘ for Period 01	man/assert_filter_cond.Rd
new observations are derived correctly with DuBois & DuBois method	man/assert_filter_cond.Rd
‘target‘ is set to ‘Y‘ when ‘start_date‘ >= ‘ref_start_date‘ and ‘ref_end_date‘ and ‘filter_pre_timepoint‘ are not specified	man/assert_filter_cond.Rd
derive_last_dose_date works as expected	man/assert_filter_cond.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_filter_cond.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/assert_filter_cond.Rd
new observations are derived correctly	man/assert_filter_cond.Rd
a warning is issued when using ‘derive_baseline()’	man/assert_filter_cond.Rd
‘dthcaus‘ handles symbols and string literals correctly	man/assert_filter_cond.Rd
new observations based on DTC variables are derived correctly	man/assert_filter_cond.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/assert_filter_cond.Rd
a warning is issued when specifying ‘derive_var_ontrtfl(date =)’	man/assert_filter_cond.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = FALSE)	man/assert_filter_cond.Rd
‘target‘ is set to ‘Y‘ when ‘start_date‘ >= ‘ref_start_date‘ and ‘start_date‘ <= ‘ref_end_date‘ + ‘ref_end_window‘	man/assert_filter_cond.Rd
‘target‘ is set to ‘Y‘ when ‘start_date‘ >= ‘ref_start_date‘ and ‘start_date‘ <= ‘ref_end_date‘ and no ‘ref_end_window‘ is specified, otherwise NA	man/assert_filter_cond.Rd
a warning is issued when using ‘derive_params_exposure()’	man/assert_filter_cond.Rd
only the ‘target‘ variable is added to the input dataset	man/assert_filter_cond.Rd
new observations are derived correctly with Haycock method	man/assert_filter_cond.Rd
a warning is issued when specifying ‘dthcaus_source(dataset =)’	man/assert_filter_cond.Rd
an error is issued if some of the by variables are missing	man/assert_filter_cond.Rd
‘target‘ is set to NA when ‘end_date‘ is missing and ‘start_date‘ is before ‘ref_start_date‘ a la Roche	man/assert_filter_cond.Rd
new observations with analysis date are derived correctly	man/assert_filter_cond.Rd
derive_vars_disposition_reason checks new_var_spe and reason_var_spe	man/assert_filter_cond.Rd
derive_var_last_dose works as expected with dates only	man/assert_filter_cond.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
derive_vars_last_dose checks validity of start and end dose inputs	man/assert_filter_cond.Rd
DTHCAUS is added from AE and DS	man/assert_filter_cond.Rd
a warning is issued when specifying 'dthcaus_source(traceabilty_vars =)'	man/assert_filter_cond.Rd
a warning is issued when specifying 'lstalvdt_source(date_var =)'	man/assert_filter_cond.Rd
'target' is set to NA when 'end_date' < 'ref_start_date' regardless of start_date being NA	man/assert_filter_cond.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/assert_filter_cond.Rd
derive_vars_last_dose when multiple doses on same date - error	man/assert_filter_cond.Rd
first observation for each group is flagged	man/assert_filter_cond.Rd
filtering the merge dataset works	man/assert_filter_cond.Rd
Derive worst flag works correctly	man/assert_filter_cond.Rd
new observations are derived correctly with constant parameters	man/assert_filter_cond.Rd
input is filtered if filter is not NULL	man/assert_filter_cond.Rd
a warning is issued when using 'derive_last_dose()'	man/assert_filter_cond.Rd
a warning is issued when specifying 'lstalvdt_source(dataset =)'	man/assert_filter_cond.Rd
'target' is set to 'Y' when 'start_date' is NA	man/assert_filter_cond.Rd
call_derivation works	man/assert_filter_cond.Rd
derive_var_last_dose checks validity of start and end dose inputs	man/assert_filter_cond.Rd
Filter record within 'by_vars'	man/assert_filter_cond.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/assert_filter_cond.Rd
derive_vars_last_dose works as expected	man/assert_filter_cond.Rd
derive_vars_last_dose returns traceability vars	man/assert_filter_cond.Rd
a warning is issued when specifying 'derive_var_extreme_flag(flag_filter =)'	man/assert_filter_cond.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/assert_filter_cond.Rd
a warning is issued when using 'derive_disposition_dt()'	man/assert_filter_cond.Rd
a warning is issued when using 'derive_disposition_status()'	man/assert_filter_cond.Rd
a warning is issued when using 'derive_extreme_flag()'	man/assert_filter_cond.Rd
a warning is issued when specifying 'dthcaus_source(date_var =)'	man/assert_filter_cond.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/assert_filter_cond.Rd
new observations are derived correctly with Boyd method	man/assert_filter_cond.Rd
input is returned as is if filter is NULL	man/assert_filter_cond.Rd
ATC variables are merged properly	man/assert_filter_cond.Rd
a warning is issued when using 'derive_var_basec()'	man/assert_filter_cond.Rd
the merge dataset is transposed and merged correctly	man/assert_filter_cond.Rd
new observations are derived correctly with Gehan & George method	man/assert_filter_cond.Rd
new observations are derived correctly with Fujimoto method	man/assert_filter_cond.Rd
new observations are derived correctly with Takahira method	man/assert_filter_cond.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
new observations are derived correctly when zero_doses is Y	man/assert_filter_cond.Rd
new observations are derived correctly for AVAL	man/assert_filter_cond.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/assert_filter_cond.Rd
new observations are derived correctly when zero_doses is NULL	man/assert_filter_cond.Rd
assert_valid_queries checks VAR_PREFIX values	man/assert_has_variables.Rd
first observation for each group are selected	man/assert_has_variables.Rd
derive_var_last_dose_amt works as expected	man/assert_has_variables.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_has_variables.Rd
Derive DCSREAS using default mapping	man/assert_has_variables.Rd
derive_vars_last_dose returns traceability vars	man/assert_has_variables.Rd
Derive when an adverse event is in multiple baskets	man/assert_has_variables.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/assert_has_variables.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/assert_has_variables.Rd
Derive decides between TERM_NAME and TERM_ID based on the type of the variable	man/assert_has_variables.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/assert_has_variables.Rd
an error if issued set_values_to contains invalid expressions	man/assert_has_variables.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_has_variables.Rd
derive_var_last_dose_date returns traceability vars	man/assert_has_variables.Rd
Derive when query dataset does not have QUERY_ID or QUERY_SCOPE column	man/assert_has_variables.Rd
LSTALVDT is derived	man/assert_has_variables.Rd
new observations with analysis datetime are derived correctly	man/assert_has_variables.Rd
TRTSDTM variable is added	man/assert_has_variables.Rd
derive_var_last_dose_amt returns traceability vars	man/assert_has_variables.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_has_variables.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_has_variables.Rd
new observations based on DTC variables are derived correctly	man/assert_has_variables.Rd
‘dthcaus‘ handles symbols and string literals correctly	man/assert_has_variables.Rd
LSTALVDT is derived for Date class as well	man/assert_has_variables.Rd
Derive CQ and SMQ variables with two term levels	man/assert_has_variables.Rd
an error is thrown if a required variable is missing	man/assert_has_variables.Rd
new observations with analysis date are derived correctly	man/assert_has_variables.Rd
derive_vars_last_dose works as expected	man/assert_has_variables.Rd
DTHCAUS is added from AE and DS	man/assert_has_variables.Rd
a warning is issued when using ‘derive_query_vars()’	man/assert_has_variables.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_has_variables.Rd
Derive when dataset does not have a unique key when excluding ‘TERM_LEVEL‘ columns	man/assert_has_variables.Rd
TRTEDTM variable is added	man/assert_has_variables.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
no error is thrown if a required variable exists	man/assert_has_variables.Rd
derive_last_dose_date works as expected	man/assert_has_variables.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/assert_has_variables.Rd
a warning is issued when using 'derive_disposition_reason()'	man/assert_has_variables.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/assert_has_variables.Rd
an error is thrown if a required variable is missing	man/assert_has_variables.Rd
by_vars parameter works correctly	man/assert_has_variables.Rd
LSTALVDT and traceability variables are derived	man/assert_has_variables.Rd
no error is thrown if a required variable exists	man/assert_has_variables.Rd
new observations with analysis datetime are derived correctly	man/assert_integer_scalar.Rd
'tte_source' objects are printed as intended	man/assert_integer_scalar.Rd
'target' is set to NA when 'end_date' < 'ref_start_date' regardless of start_date being NA	man/assert_integer_scalar.Rd
'target' is set to 'Y' when 'start_date' is NA	man/assert_integer_scalar.Rd
'target' is set to NA when 'ref_start_date' is NA	man/assert_integer_scalar.Rd
new observations with analysis date are derived correctly	man/assert_integer_scalar.Rd
error is issued if parameter code already exists	man/assert_integer_scalar.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_integer_scalar.Rd
by_vars parameter works correctly	man/assert_integer_scalar.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' + 'ref_end_window'	man/assert_integer_scalar.Rd
'target' is set to 'Y' when 'end_date' > 'ref_start_date' when 'start_date' is missing	man/assert_integer_scalar.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' and no 'ref_end_window' is specified, otherwise NA	man/assert_integer_scalar.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'ref_end_date' and 'filter_pre_timepoint' are not specified	man/assert_integer_scalar.Rd
'target' is set to 'Y' when 'filter_pre_timepoint' is not 'PRE' and 'start_date' = 'ref_start_date' and 'ref_end_date' is not specified	man/assert_integer_scalar.Rd
new observations based on DTC variables are derived correctly	man/assert_integer_scalar.Rd
an error is issued all by variables are missing in all source datasets	man/assert_integer_scalar.Rd
an error is issued if some of the by variables are missing	man/assert_integer_scalar.Rd
an error if issued set_values_to contains invalid expressions	man/assert_integer_scalar.Rd
'target' is set to NA when 'start_date' < 'ref_start_date'	man/assert_integer_scalar.Rd
a warning is issued when specifying 'derive_var_ontrfl(date =)'	man/assert_integer_scalar.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_integer_scalar.Rd
'target' is set to Y when 'end_date' is missing and 'start_date' is before 'ref_start_date' a la GSK	man/assert_integer_scalar.Rd
'target' is set to Y when 'start_date' is before 'ref_start_date' and 'end_date' is before 'ref_end_date' for Period 01	man/assert_integer_scalar.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
‘target‘ is set to NA when ‘end_date‘ is missing and ‘start_date‘ is before ‘ref_start_date‘ a la Roche	man/assert_integer_scalar.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_list_element.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_list_element.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets	man/assert_list_element.Rd
‘dthcaus‘ handles symbols and string literals correctly	man/assert_list_element.Rd
new observations with analysis date are derived correctly	man/assert_list_element.Rd
LSTALVDT and traceability variables are derived	man/assert_list_element.Rd
LSTALVDT is derived	man/assert_list_element.Rd
error is issued if parameter code already exists	man/assert_list_element.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_list_element.Rd
by_vars parameter works correctly	man/assert_list_element.Rd
LSTALVDT is derived for Date class as well	man/assert_list_element.Rd
an error if issued set_values_ to contains invalid expressions	man/assert_list_element.Rd
DTHCAUS is added from AE and DS	man/assert_list_element.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_list_element.Rd
new observations based on DTC variables are derived correctly	man/assert_list_element.Rd
an error is issued if some of the by variables are missing	man/assert_list_element.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_list_element.Rd
new observations with analysis datetime are derived correctly	man/assert_list_element.Rd
an error is issued all by variables are missing in all source datasets	man/assert_list_element.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_list_of.Rd
DTHCAUS is added from AE and DS	man/assert_list_of.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_list_of.Rd
‘dthcaus‘ handles symbols and string literals correctly	man/assert_list_of.Rd
an error is issued if some of the by variables are missing	man/assert_list_of.Rd
new observations based on DTC variables are derived correctly	man/assert_list_of.Rd
by_vars parameter works correctly	man/assert_list_of.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets	man/assert_list_of.Rd
an error if issued set_values_ to contains invalid expressions	man/assert_list_of.Rd
error is issued if parameter code already exists	man/assert_list_of.Rd
new observations with analysis datetime are derived correctly	man/assert_list_of.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_list_of.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_list_of.Rd
LSTALVDT is derived for Date class as well	man/assert_list_of.Rd
call_derivation works	man/assert_list_of.Rd
new observations with analysis date are derived correctly	man/assert_list_of.Rd
LSTALVDT is derived	man/assert_list_of.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
an error is issued all by variables are missing in all source datasets	man/assert_list_of.Rd
LSTALVDT and traceability variables are derived	man/assert_list_of.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_list_of.Rd
by_vars parameter works correctly	man/assert_logical_scalar.Rd
derive_agegr_fda works as expected	man/assert_logical_scalar.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/assert_logical_scalar.Rd
‘target‘ is set to NA when ‘start_date‘ < ‘ref_start_date‘	man/assert_logical_scalar.Rd
derive_var_age_years works as expected	man/assert_logical_scalar.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_logical_scalar.Rd
new observations are derived correctly	man/assert_logical_scalar.Rd
new observations based on DTC variables are derived correctly	man/assert_logical_scalar.Rd
a warning is issued when using ‘derive_disposition_status()‘	man/assert_logical_scalar.Rd
Derive when an adverse event is in multiple baskets	man/assert_logical_scalar.Rd
an error is issued if PARAMCD is not set	man/assert_logical_scalar.Rd
a warning is issued when using ‘derive_extreme_flag()‘	man/assert_logical_scalar.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/assert_logical_scalar.Rd
derive_agegr_ema works as expected	man/assert_logical_scalar.Rd
‘target‘ is set to Y when ‘end_date‘ is missing and ‘start_date‘ is before ‘ref_start_date‘ a la GSK	man/assert_logical_scalar.Rd
new observations with analysis date are derived correctly	man/assert_logical_scalar.Rd
derive_agegr_ema works with age_unit missing and multiple units in AGEU (adults)	man/assert_logical_scalar.Rd
last observation for each group is flagged, filter works	man/assert_logical_scalar.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_logical_scalar.Rd
an error is issued all by variables are missing in all source datasets	man/assert_logical_scalar.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets	man/assert_logical_scalar.Rd
a warning is issued when using ‘derive_last_dose()‘	man/assert_logical_scalar.Rd
a warning is issued when using ‘derive_disposition_dt()‘	man/assert_logical_scalar.Rd
duration and unit variable are added	man/assert_logical_scalar.Rd
a warning is issued when using ‘derive_obs_number()‘	man/assert_logical_scalar.Rd
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/assert_logical_scalar.Rd
BMI is calculated correctly	man/assert_logical_scalar.Rd
assert_filter_cond works as expected	man/assert_logical_scalar.Rd
An error is thrown if a subject has multiple records per ‘PARAMCD‘ and ‘BASETYPE‘	man/assert_logical_scalar.Rd
‘target‘ is set to ‘Y‘ when ‘start_date‘ >= ‘ref_start_date‘ and ‘ref_end_date‘ and ‘filter_pre_timepoint‘ are not specified	man/assert_logical_scalar.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/assert_logical_scalar.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
LSTALVDT and traceability variables are derived	man/assert_logical_scalar.Rd
new observations are derived correctly with Mosteller method	man/assert_logical_scalar.Rd
LSTALVDT is derived for Date class as well	man/assert_logical_scalar.Rd
‘target‘ is set to ‘Y‘ when ‘ start_date‘ is NA	man/assert_logical_scalar.Rd
ADY is added	man/assert_logical_scalar.Rd
‘target‘ is set to NA when ‘end_date‘<‘ref_start_date‘	man/assert_logical_scalar.Rd
regardless of start_date being NA	
DTHCAUS is added from AE and DS	man/assert_logical_scalar.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_logical_scalar.Rd
an error is issued if some of the by variables are missing	man/assert_logical_scalar.Rd
a warning is issued when using ‘derive_baseline()‘	man/assert_logical_scalar.Rd
a warning is issued when using ‘derive_var_basec()‘	man/assert_logical_scalar.Rd
Convert a complete – DTC into a date time object	man/assert_logical_scalar.Rd
BMI parameter is correctly added to input dataset	man/assert_logical_scalar.Rd
first observation is selected without grouping	man/assert_logical_scalar.Rd
new observations are derived correctly with constant parameters	man/assert_logical_scalar.Rd
‘target‘ is set to ‘Y‘ when ‘filter_pre_timepoint‘ is not ‘PRE‘	man/assert_logical_scalar.Rd
and ‘ start_date‘ = ‘ref_start_date‘ and ‘ref_end_date‘ is not specified	
‘target‘ is set to ‘Y‘ when ‘ start_date‘ >= ‘ref_start_date‘ and	man/assert_logical_scalar.Rd
‘ start_date‘ <= ‘ref_end_date‘ and no ‘ref_end_window‘ is specified, otherwise NA	
derive_agegr_ema - works as expected	man/assert_logical_scalar.Rd
‘target‘ is set to ‘Y‘ when ‘ start_date‘ >= ‘ref_start_date‘ and	man/assert_logical_scalar.Rd
‘ start_date‘ <= ‘ref_end_date‘ + ‘ref_end_window‘	
Errors	man/assert_logical_scalar.Rd
check ‘set_values_to‘ mapping	man/assert_logical_scalar.Rd
Filter record within ‘by_vars‘	man/assert_logical_scalar.Rd
first observation for each group are selected	man/assert_logical_scalar.Rd
negate_vars returns list of negated variables	man/assert_logical_scalar.Rd
a warning is issued when using ‘derive_disposition_reason()‘	man/assert_logical_scalar.Rd
no new observations are added if filtered dataset is empty	man/assert_logical_scalar.Rd
no new observations are added if a parameter is missing	man/assert_logical_scalar.Rd
ABLFL = Y using last observation within a subset	man/assert_logical_scalar.Rd
a warning is issued when specifying ‘lstalvdt_source(dataset =)‘	man/assert_logical_scalar.Rd
Derive EOTSTT using a study specific mapping	man/assert_logical_scalar.Rd
new observations with analysis datetime are derived correctly	man/assert_logical_scalar.Rd
a warning is issued when using ‘derive_params_exposure()‘	man/assert_logical_scalar.Rd
Derive EOSSTT using default mapping	man/assert_logical_scalar.Rd
‘dthcaus‘ handles symbols and string literals correctly	man/assert_logical_scalar.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/assert_logical_scalar.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/assert_logical_scalar.Rd
a warning is issued when specifying ‘dthcaus_source(dataset =)‘	man/assert_logical_scalar.Rd
error on a dthcaus_source object with invalid mode	man/assert_logical_scalar.Rd
derive_var_last_dose_date returns traceability vars	man/assert_logical_scalar.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Derive RFICDT	man/assert_logical_scalar.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_logical_scalar.Rd
error is issued if parameter code already exists	man/assert_logical_scalar.Rd
Derive CQ and SMQ variables with two term levels	man/assert_logical_scalar.Rd
a warning is issued when using ‘derive_suppqual_vars()’	man/assert_logical_scalar.Rd
a warning is issued when using ‘derive_aage()’	man/assert_logical_scalar.Rd
LSTALVDT is derived	man/assert_logical_scalar.Rd
call_derivation works	man/assert_logical_scalar.Rd
ABLFL = Y worst observation = HI within a subset	man/assert_logical_scalar.Rd
ABLFL = Y worst observation = LO within a subset	man/assert_logical_scalar.Rd
ABLFL = Y average records within a subset	man/assert_logical_scalar.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/assert_logical_scalar.Rd
Derive worst flag works correctly	man/assert_logical_scalar.Rd
Derive when dataset does not have a unique key when excluding ‘TERM_LEVEL’ columns	man/assert_logical_scalar.Rd
Derive worst flag catches invalid parameters	man/assert_logical_scalar.Rd
Derive when query dataset does not have QUERY_ID or QUERY_SCOPE column	man/assert_logical_scalar.Rd
AENDY is added	man/assert_logical_scalar.Rd
‘fns’ as inlined	man/assert_logical_scalar.Rd
Impute incomplete – DTC into a date time object	man/assert_logical_scalar.Rd
Convert – DT into a date time object	man/assert_logical_scalar.Rd
a warning is issued when specifying ‘derive_summary_records(filter_rows =)’	man/assert_logical_scalar.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_logical_scalar.Rd
Derive worst flag works correctly with no worst_high option	man/assert_logical_scalar.Rd
Derive decides between TERM_NAME and TERM_ID based on the type of the variable	man/assert_logical_scalar.Rd
first observation for each group is flagged	man/assert_logical_scalar.Rd
‘PCHG’ is set to ‘NA’ if ‘BASE == 0’	man/assert_logical_scalar.Rd
a warning is issued when specifying ‘derive_var_ontrfl(date =)’	man/assert_logical_scalar.Rd
new observations are derived correctly for AVAL	man/assert_logical_scalar.Rd
two-sided reference ranges work	man/assert_logical_scalar.Rd
explicitly missing extreme ranges are supported	man/assert_logical_scalar.Rd
one-sided reference ranges work	man/assert_logical_scalar.Rd
‘target’ is set to ‘Y’ when ‘end_date’ > ‘ref_start_date’ when ‘start_date’ is missing	man/assert_logical_scalar.Rd
‘target’ is set to NA when ‘end_date’ is missing and ‘start_date’ is before ‘ref_start_date’ a la Roche	man/assert_logical_scalar.Rd
‘target’ is set to Y when ‘start_date’ is before ‘ref_start_date’ and ‘end_date’ is before ‘ref_end_date’ for Period 01	man/assert_logical_scalar.Rd
‘target’ is set to NA when ‘ref_start_date’ is NA	man/assert_logical_scalar.Rd
derive_var_last_dose works as expected	man/assert_logical_scalar.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
a warning is issued when specifying 'derive_var_extreme_flag(flag_filter =)'	man/assert_logical_scalar.Rd
a warning is issued when specifying 'lstalvdt_source(date_var =)'	man/assert_logical_scalar.Rd
a warning is issued when using 'derive_duration()' new observations are derived correctly when zero_doses is Y	man/assert_logical_scalar.Rd
creates a new record for each group and new data frame retains grouping	man/assert_logical_scalar.Rd
set new value to a derived record	man/assert_logical_scalar.Rd
Mosteller method - single height and weight values	man/assert_logical_scalar.Rd
Gehan-George - height and weight vectors	man/assert_logical_scalar.Rd
Boyd - height and weight vectors	man/assert_logical_scalar.Rd
Partial date imputed to the mid day/month	man/assert_logical_scalar.Rd
'target' is set to 'NA' if a baseline record is missing	man/assert_logical_scalar.Rd
records that do not match any condition are kept	man/assert_logical_scalar.Rd
a warning is issued when specifying 'dthcaus_source(date_var =)'	man/assert_logical_scalar.Rd
a warning is issued when specifying 'dthcaus_source(traceability_vars =)'	man/assert_logical_scalar.Rd
derive_var_last_dose returns traceability vars	man/assert_logical_scalar.Rd
a warning is issued when using 'derive_query_vars()' new observations are derived correctly when zero_doses is NULL	man/assert_logical_scalar.Rd
Partial date imputed to the first day/month	man/assert_logical_scalar.Rd
Partial date imputed to the last day/month	man/assert_logical_scalar.Rd
'tte_source' objects are printed as intended	man/assert_logical_scalar.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/assert_logical_scalar.Rd
No re-derivation is done if -DTF variable already exists	man/assert_logical_scalar.Rd
implicitly missing extreme ranges are supported	man/assert_logical_scalar.Rd
MAP based on diastolic and systolic blood pressure	man/assert_logical_scalar.Rd
Mosteller method - height and weight vectors	man/assert_logical_scalar.Rd
DuBois-DuBois method - height and weight vectors	man/assert_logical_scalar.Rd
Haycock method - height and weight vectors	man/assert_logical_scalar.Rd
derive_var_last_dose_amt works as expected	man/assert_logical_scalar.Rd
derive_var_last_dose_amt returns traceability vars	man/assert_logical_scalar.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/assert_logical_scalar.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/assert_logical_scalar.Rd
derive_last_dose_date works as expected	man/assert_logical_scalar.Rd
the merge dataset is transposed and merged correctly	man/assert_logical_scalar.Rd
filtering the merge dataset works	man/assert_logical_scalar.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = FALSE)	man/assert_logical_scalar.Rd
negate_vars returns NULL if input is NULL	man/assert_logical_scalar.Rd
an error if issued set_values_to contains invalid expressions	man/assert_logical_scalar.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
‘CHG’ is calculated as ‘AVAL - BASE’	man/assert_logical_scalar.Rd
‘PCHG’ is calculated as ‘(AVAL - BASE) / abs(BASE) * 100’	man/assert_logical_scalar.Rd
Partial date imputed to the last day/month, no DTF	man/assert_logical_scalar.Rd
Convert a complete – DTM into –TM, TM out is HH:MM:SS	man/assert_logical_scalar.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/assert_logical_scalar.Rd
TRTDURD is added	man/assert_logical_scalar.Rd
TRTEDTM variable is added	man/assert_logical_scalar.Rd
TRTSDTM variable is added	man/assert_logical_scalar.Rd
derive_var_last_dose works as expected with dates only	man/assert_logical_scalar.Rd
derive_var_last_dose checks validity of start and end dose inputs	man/assert_logical_scalar.Rd
new observations are derived correctly with Gehan & George method	man/assert_logical_scalar.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/assert_logical_scalar.Rd
records are duplicated across different ‘BASETYPE’ values	man/assert_logical_scalar.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/assert_logical_scalar.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/assert_logical_scalar.Rd
Fujimoto - height and weight vectors	man/assert_logical_scalar.Rd
Takahira - height and weight vectors	man/assert_logical_scalar.Rd
missing ‘AVAL’ is handled properly	man/assert_logical_scalar.Rd
ASTDY is added	man/assert_logical_scalar.Rd
Derive ATIREL	man/assert_logical_scalar.Rd
only the ‘target’ variable is added to the input dataset	man/assert_logical_scalar.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/assert_logical_scalar.Rd
input is returned as is if filter is NULL	man/assert_logical_scalar.Rd
an error is issued if an invalid method is specified	man/assert_logical_scalar.Rd
Convert a complete – DTM into a date object	man/assert_logical_scalar.Rd
Ignore Seconds Flag is not used when not present in the function call	man/assert_logical_scalar.Rd
‘target’ is set to ‘source’ where ‘ABLFL == ’Y’	man/assert_logical_scalar.Rd
compute TMF	man/assert_logical_scalar.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/assert_logical_scalar.Rd
derive_vars_last_dose returns traceability vars	man/assert_logical_scalar.Rd
new observations are derived correctly with DuBois & DuBois method	man/assert_logical_scalar.Rd
new observations are derived correctly with Haycock method	man/assert_logical_scalar.Rd
ATC variables are merged properly	man/assert_logical_scalar.Rd
package templates can be used	man/assert_logical_scalar.Rd
input is filtered if filter is not NULL	man/assert_logical_scalar.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/assert_logical_scalar.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/assert_logical_scalar.Rd
derive_vars_last_dose works as expected	man/assert_logical_scalar.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/assert_logical_scalar.Rd
new observations are derived correctly with Boyd method	man/assert_logical_scalar.Rd
new observations are derived correctly with Fujimoto method	man/assert_logical_scalar.Rd
new observations are derived correctly with Takahira method	man/assert_logical_scalar.Rd
IDVAR is missing, join by USUBJID	man/assert_logical_scalar.Rd
Test domain paramter	man/assert_logical_scalar.Rd
derive_vars_disposition_reason checks new_var_spe and reason_var_spe	man/assert_logical_scalar.Rd
derive_vars_last_dose checks validity of start and end dose inputs	man/assert_logical_scalar.Rd
derive_vars_last_dose when multiple doses on same date - error	man/assert_logical_scalar.Rd
Derive DCSREAS using default mapping	man/assert_logical_scalar.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/assert_logical_scalar.Rd
Multiple Records for each IDVAR	man/assert_logical_scalar.Rd
Multiple IDVARs, differing types	man/assert_logical_scalar.Rd
BMI is calculated correctly	man/assert_numeric_vector.Rd
DuBois-DuBois method - height and weight vectors	man/assert_numeric_vector.Rd
derive_var_age_years works as expected	man/assert_numeric_vector.Rd
an error is issued if an invalid method is specified	man/assert_numeric_vector.Rd
MAP based on diastolic and systolic blood pressure	man/assert_numeric_vector.Rd
Mosteller method - height and weight vectors	man/assert_numeric_vector.Rd
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/assert_numeric_vector.Rd
Mosteller method - single height and weight values	man/assert_numeric_vector.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/assert_numeric_vector.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/assert_numeric_vector.Rd
new observations are derived correctly	man/assert_numeric_vector.Rd
derive_agegr_fda works as expected	man/assert_numeric_vector.Rd
Boyd - height and weight vectors	man/assert_numeric_vector.Rd
BMI parameter is correctly added to input dataset	man/assert_numeric_vector.Rd
new observations are derived correctly with DuBois & DuBois method	man/assert_numeric_vector.Rd
new observations are derived correctly with Gehan & George method	man/assert_numeric_vector.Rd
Takahira - height and weight vectors	man/assert_numeric_vector.Rd
Haycock method - height and weight vectors	man/assert_numeric_vector.Rd
new observations are derived correctly with Boyd method	man/assert_numeric_vector.Rd
new observations are derived correctly with Mosteller method	man/assert_numeric_vector.Rd
derive_agegr_ema works with age_unit missing and multiple units in AGEU (adults)	man/assert_numeric_vector.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
derive_agegr_ema - works as expected	man/assert_numeric_vector.Rd
Fujimoto - height and weight vectors	man/assert_numeric_vector.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/assert_numeric_vector.Rd
new observations are derived correctly with Takahira method	man/assert_numeric_vector.Rd
new observations are derived correctly with Haycock method	man/assert_numeric_vector.Rd
derive_agegr_ema works as expected	man/assert_numeric_vector.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/assert_numeric_vector.Rd
new observations are derived correctly with Fujimoto method	man/assert_numeric_vector.Rd
Gehan-George - height and weight vectors	man/assert_numeric_vector.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_one_to_one.Rd
by_vars parameter works correctly	man/assert_one_to_one.Rd
Derive worst flag catches invalid parameters	man/assert_order_vars.Rd
new observations based on DTC variables are derived correctly	man/assert_order_vars.Rd
derive_var_last_dose_date returns traceability vars	man/assert_order_vars.Rd
derive_vars_last_dose works as expected	man/assert_order_vars.Rd
TRTSDTM variable is added	man/assert_order_vars.Rd
a warning is issued when specifying 'derive_var_extreme_flag(flag_filter =)'	man/assert_order_vars.Rd
Derive worst flag works correctly with no worst_high option	man/assert_order_vars.Rd
LSTALVDT and traceability variables are derived	man/assert_order_vars.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/assert_order_vars.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/assert_order_vars.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_order_vars.Rd
derive_vars_last_dose returns traceability vars	man/assert_order_vars.Rd
first observation is selected without grouping	man/assert_order_vars.Rd
new observations with analysis date are derived correctly	man/assert_order_vars.Rd
TRTEDTM variable is added	man/assert_order_vars.Rd
ABLFL = Y average records within a subset	man/assert_order_vars.Rd
ABLFL = Y worst observation = HI within a subset	man/assert_order_vars.Rd
Derive worst flag works correctly	man/assert_order_vars.Rd
an error if issued set_values_to contains invalid expressions	man/assert_order_vars.Rd
derive_var_last_dose_amt works as expected	man/assert_order_vars.Rd
first observation for each group are selected	man/assert_order_vars.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/assert_order_vars.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_order_vars.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_order_vars.Rd
new observations with analysis datetime are derived correctly	man/assert_order_vars.Rd
by_vars parameter works correctly	man/assert_order_vars.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
a warning is issued when using ‘derive_extreme_flag()’	man/assert_order_vars.Rd
ABLFL = Y using last observation within a subset	man/assert_order_vars.Rd
ABLFL = Y worst observation = LO within a subset	man/assert_order_vars.Rd
last observation for each group is flagged, filter works	man/assert_order_vars.Rd
derive_var_last_dose_amt returns traceability vars	man/assert_order_vars.Rd
derive_last_dose_date works as expected	man/assert_order_vars.Rd
first observation for each group is flagged	man/assert_order_vars.Rd
a warning is issued when using ‘derive_obs_number()’	man/assert_order_vars.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_order_vars.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/assert_order_vars.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/assert_order_vars.Rd
LSTALVDT is derived	man/assert_order_vars.Rd
‘dthcaus’ handles symbols and string literals correctly	man/assert_order_vars.Rd
LSTALVDT is derived for Date class as well	man/assert_order_vars.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_order_vars.Rd
DTHCAUS is added from AE and DS	man/assert_order_vars.Rd
new observations are derived correctly	man/assert_param_does_not_exist.Rd
new observations are derived correctly with DuBois & DuBois method	man/assert_param_does_not_exist.Rd
new observations are derived correctly with Mosteller method	man/assert_param_does_not_exist.Rd
error is issued if parameter code already exists	man/assert_param_does_not_exist.Rd
BMI parameter is correctly added to input dataset	man/assert_param_does_not_exist.Rd
no new observations are added if filtered dataset is empty	man/assert_param_does_not_exist.Rd
new observations are derived correctly with Haycock method	man/assert_param_does_not_exist.Rd
new observations are derived correctly with Gehan & George method	man/assert_param_does_not_exist.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/assert_param_does_not_exist.Rd
a warning is issued when using ‘derive_params_exposure()’	man/assert_param_does_not_exist.Rd
new observations are derived correctly with Fujimoto method	man/assert_param_does_not_exist.Rd
new observations are derived correctly for AVAL	man/assert_param_does_not_exist.Rd
new observations are derived correctly with constant parameters	man/assert_param_does_not_exist.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/assert_param_does_not_exist.Rd
new observations are derived correctly with Boyd method	man/assert_param_does_not_exist.Rd
Errors	man/assert_param_does_not_exist.Rd
new observations are derived correctly when zero_doses is Y	man/assert_param_does_not_exist.Rd
new observations are derived correctly with Takahira method	man/assert_param_does_not_exist.Rd
new observations are derived correctly when zero_doses is NULL	man/assert_param_does_not_exist.Rd
no new observations are added if a parameter is missing	man/assert_param_does_not_exist.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/assert_param_does_not_exist.Rd
LSTALVDT and traceability variables are derived	man/assert_s3_class.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
an error is issued if some of the by variables are missing	man/assert_s3_class.Rd
LSTALVDT is derived for Date class as well	man/assert_s3_class.Rd
an error is issued all by variables are missing in all source datasets	man/assert_s3_class.Rd
DTHCAUS is added from AE and DS	man/assert_s3_class.Rd
LSTALVDT is derived	man/assert_s3_class.Rd
Filter record within ‘by_vars’	man/assert_s3_class.Rd
by_vars parameter works correctly	man/assert_s3_class.Rd
creates a new record for each group and new data frame retains grouping	man/assert_s3_class.Rd
Errors	man/assert_s3_class.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/assert_s3_class.Rd
error is issued if parameter code already exists	man/assert_s3_class.Rd
a warning is issued when using ‘derive_params_exposure()’	man/assert_s3_class.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_s3_class.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_s3_class.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_s3_class.Rd
set new value to a derived record	man/assert_s3_class.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_s3_class.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_s3_class.Rd
new observations with analysis datetime are derived correctly	man/assert_s3_class.Rd
call_derivation works	man/assert_s3_class.Rd
an error if issued set_values_to contains invalid expressions	man/assert_s3_class.Rd
new observations are derived correctly for AVAL	man/assert_s3_class.Rd
‘fns’ as inlined	man/assert_s3_class.Rd
check ‘set_values_to’ mapping	man/assert_s3_class.Rd
a warning is issued when specifying ‘derive_summary_records(filter_rows =)’	man/assert_s3_class.Rd
new observations with analysis date are derived correctly	man/assert_s3_class.Rd
‘dthcaus’ handles symbols and string literals correctly	man/assert_s3_class.Rd
new observations based on DTC variables are derived correctly	man/assert_s3_class.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/assert_symbol.Rd
TRTSDTM variable is added	man/assert_symbol.Rd
by_vars parameter works correctly	man/assert_symbol.Rd
new observations based on DTC variables are derived correctly	man/assert_symbol.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/assert_symbol.Rd
a warning is issued when specifying ‘lstalvdt_source(date_var =)’	man/assert_symbol.Rd
a warning is issued when specifying ‘dthcaus_source(traceability_vars =)’	man/assert_symbol.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
‘target‘ is set to Y when ‘start_date‘ is before ‘ref_start_date‘ and ‘end_date‘ is before ‘ref_end_date‘ for Period 01	man/assert_symbol.Rd
a warning is issued when specifying ‘lstalvdt_source(dataset =) set new value to a derived record	man/assert_symbol.Rd man/assert_symbol.Rd
Partial date imputed to the first day/month	man/assert_symbol.Rd
a warning is issued when specifying ‘derive_summary_records(filter_rows =)	man/assert_symbol.Rd
Derive worst flag catches invalid parameters	man/assert_symbol.Rd
a warning is issued when using ‘derive_var_basec() ‘fns‘ as inlined	man/assert_symbol.Rd man/assert_symbol.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_symbol.Rd
a warning is issued when specifying ‘derive_var_extreme_flag(flag_filter =)‘	man/assert_symbol.Rd
call_derivation works	man/assert_symbol.Rd
a warning is issued when using ‘derive_aage()’	man/assert_symbol.Rd
a warning is issued when specifying ‘dthcaus_source(dataset =)	man/assert_symbol.Rd
new observations with analysis date are derived correctly	man/assert_symbol.Rd
derive_var_last_dose_date returns traceability vars	man/assert_symbol.Rd
new observations with analysis datetime are derived correctly	man/assert_symbol.Rd
Partial date imputed to the mid day/month	man/assert_symbol.Rd
Errors	man/assert_symbol.Rd
a warning is issued when using ‘derive_baseline()’	man/assert_symbol.Rd
an error is issued if some of the by variables are missing	man/assert_symbol.Rd
‘target‘ is set to NA when ‘ref_start_date‘ is NA	man/assert_symbol.Rd
an error is issued all by variables are missing in all source datasets	man/assert_symbol.Rd
‘tte_source‘ objects are printed as intended	man/assert_symbol.Rd
Derive worst flag works correctly with no worst_high option	man/assert_symbol.Rd
Partial date imputed to the last day/month, no DTF	man/assert_symbol.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/assert_symbol.Rd
a warning is issued when using ‘derive_disposition_status()‘	man/assert_symbol.Rd
duration and unit variable are added	man/assert_symbol.Rd
filtering the merge dataset works	man/assert_symbol.Rd
TRTEDTM variable is added	man/assert_symbol.Rd
Derive worst flag works correctly	man/assert_symbol.Rd
derive_var_last_dose checks validity of start and end dose inputs	man/assert_symbol.Rd
TRTDURD is added	man/assert_symbol.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_symbol.Rd
a warning is issued when using ‘derive_extreme_flag()‘	man/assert_symbol.Rd
Derive DCSREAS using default mapping	man/assert_symbol.Rd
derive_var_last_dose_amt works as expected	man/assert_symbol.Rd
a warning is issued when specifying ‘dthcaus_source(date_var =)	man/assert_symbol.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
derive_var_last_dose works as expected with dates only	man/assert_symbol.Rd
error is issued if parameter code already exists	man/assert_symbol.Rd
a warning is issued when specifying 'derive_var_ontrtfl(date =)	man/assert_symbol.Rd
error on a dthcaus_source object with invalid mode	man/assert_symbol.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/assert_symbol.Rd
first observation for each group are selected	man/assert_symbol.Rd
first observation is selected without grouping	man/assert_symbol.Rd
ABLFL = Y average records within a subset	man/assert_symbol.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/assert_symbol.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/assert_symbol.Rd
Derive EOTSTT using a study specific mapping	man/assert_symbol.Rd
check 'set_values_to' mapping	man/assert_symbol.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/assert_symbol.Rd
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/assert_symbol.Rd
new observations are derived correctly for AVAL	man/assert_symbol.Rd
Partial date imputed to the last day/month	man/assert_symbol.Rd
'target' is set to Y when 'end_date' is missing and 'start_date' is before 'ref_start_date' a la GSK	man/assert_symbol.Rd
the merge dataset is transposed and merged correctly	man/assert_symbol.Rd
ATC variables are merged properly	man/assert_symbol.Rd
LSTALVDT is derived for Date class as well	man/assert_symbol.Rd
creates a new record for each group and new data frame retains grouping	man/assert_symbol.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = FALSE)	man/assert_symbol.Rd
DTHCAUS is added from AE and DS	man/assert_symbol.Rd
a warning is issued when using 'derive_disposition_dt()'	man/assert_symbol.Rd
an error if issued set_values_to contains invalid expressions	man/assert_symbol.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_symbol.Rd
first observation for each group is flagged	man/assert_symbol.Rd
derive_agegr_ema - works as expected	man/assert_symbol.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/assert_symbol.Rd
Filter record within 'by_vars'	man/assert_symbol.Rd
'target' is set to NA when 'start_date' < 'ref_start_date'	man/assert_symbol.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' + 'ref_end_window'	man/assert_symbol.Rd
derive_vars_disposition_reason checks new_var_spe and reason_var_spe	man/assert_symbol.Rd
derive_vars_last_dose works as expected	man/assert_symbol.Rd
Derive RFICDT	man/assert_symbol.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_symbol.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/assert_symbol.Rd
derive_last_dose_date works as expected	man/assert_symbol.Rd
derive_agegr_ema works with age_unit missing and multiple units in AGEU (adults)	man/assert_symbol.Rd
No re-derivation is done if -DTF variable already exists	man/assert_symbol.Rd
LSTALVDT and traceability variables are derived	man/assert_symbol.Rd
a warning is issued when using 'derive_disposition_reason()'	man/assert_symbol.Rd
a warning is issued when using 'derive_last_dose()'	man/assert_symbol.Rd
Ignore Seconds Flag is not used when not present in the function call	man/assert_symbol.Rd
ABLFL = Y worst observation = LO within a subset	man/assert_symbol.Rd
'target' is set to 'Y' when 'start_date' is NA	man/assert_symbol.Rd
derive_var_last_dose_amt returns traceability vars	man/assert_symbol.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/assert_symbol.Rd
derive_var_last_dose works as expected	man/assert_symbol.Rd
derive_var_last_dose returns traceability vars	man/assert_symbol.Rd
LSTALVDT is derived	man/assert_symbol.Rd
derive_var_age_years works as expected	man/assert_symbol.Rd
ABLFL = Y using last observation within a subset	man/assert_symbol.Rd
last observation for each group is flagged, filter works	man/assert_symbol.Rd
ADY is added	man/assert_symbol.Rd
AENDY is added	man/assert_symbol.Rd
Derive ATIREL	man/assert_symbol.Rd
Derive EOSSTT using default mapping	man/assert_symbol.Rd
'dthcaus' handles symbols and string literals correctly	man/assert_symbol.Rd
a warning is issued when using 'derive_obs_number()'	man/assert_symbol.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_symbol.Rd
a warning is issued when using 'derive_params_exposure()'	man/assert_symbol.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/assert_symbol.Rd
derive_vars_last_dose when multiple doses on same date - error	man/assert_symbol.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/assert_symbol.Rd
ABLFL = Y worst observation = HI within a subset	man/assert_symbol.Rd
ASTDY is added	man/assert_symbol.Rd
'target' is set to 'source' where 'ABLFL == 'Y''	man/assert_symbol.Rd
'target' is set to 'NA' if a baseline record is missing	man/assert_symbol.Rd
a warning is issued when using 'derive_duration()'	man/assert_symbol.Rd
derive_agegr_ema works as expected	man/assert_symbol.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/assert_symbol.Rd
'target' is set to 'Y' when 'filter_pre_timepoint' is not 'PRE' and 'start_date' = 'ref_start_date' and 'ref_end_date' is not specified	man/assert_symbol.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' and no 'ref_end_window' is specified, otherwise NA	man/assert_symbol.Rd
'target' is set to 'Y' when 'end_date' > 'ref_start_date' when 'start_date' is missing	man/assert_symbol.Rd
'target' is set to NA when 'end_date' is missing and 'start_date' is before 'ref_start_date' a la Roche	man/assert_symbol.Rd
'target' is set to NA when 'end_date' < 'ref_start_date' regardless of start_date being NA	man/assert_symbol.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/assert_symbol.Rd
derive_vars_last_dose returns traceability vars	man/assert_symbol.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/assert_symbol.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'ref_end_date' and 'filter_pre_timepoint' are not specified	man/assert_symbol.Rd
derive_vars_last_dose checks validity of start and end dose inputs	man/assert_symbol.Rd
only the 'target' variable is added to the input dataset	man/assert_symbol.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/assert_symbol.Rd
derive_agegr_fda works as expected	man/assert_symbol.Rd
An error is thrown if a subject has multiple records per 'PARAMCD' and 'BASETYPE'	man/assert_symbol.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/assert_symbol.Rd
new observations are derived correctly with Mosteller method	man/assert_unit.Rd
new observations are derived correctly with Gehan & George method	man/assert_unit.Rd
BMI parameter is correctly added to input dataset	man/assert_unit.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/assert_unit.Rd
new observations are derived correctly with Boyd method	man/assert_unit.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/assert_unit.Rd
new observations are derived correctly with Haycock method	man/assert_unit.Rd
new observations are derived correctly	man/assert_unit.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/assert_unit.Rd
new observations are derived correctly with DuBois & DuBois method	man/assert_unit.Rd
new observations are derived correctly with Takahira method	man/assert_unit.Rd
new observations are derived correctly with Fujimoto method	man/assert_unit.Rd
assert_valid_queries checks VAR_PREFIX values	man/assert_valid_queries.Rd
assert_valid_queries checks VAR_PREFIX values	man/assert_valid_queries.Rd
Derive when an adverse event is in multiple baskets	man/assert_valid_queries.Rd
Derive when query dataset does not have QUERY_ID or QUERY_SCOPE column	man/assert_valid_queries.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Derive when dataset does not have a unique key when excluding ‘TERM_LEVEL’ columns	man/assert_valid_queries.Rd
a warning is issued when using ‘derive_query_vars()’	man/assert_valid_queries.Rd
Derive CQ and SMQ variables with two term levels	man/assert_valid_queries.Rd
Derive decides between TERM_NAME and TERM_ID based on the type of the variable	man/assert_valid_queries.Rd
new observations are derived correctly with Gehan & George method	man/assert_vars.Rd
a warning is issued when using ‘derive_age()’	man/assert_vars.Rd
Derive DCSREAS using default mapping	man/assert_vars.Rd
‘target’ is set to Y when ‘end_date’ is missing and ‘start_date’ is before ‘ref_start_date’ a la GSK	man/assert_vars.Rd
new observations are derived correctly with Fujimoto method	man/assert_vars.Rd
TRTSDTM variable is added	man/assert_vars.Rd
a warning is issued when using ‘derive_query_vars()’	man/assert_vars.Rd
negate_vars returns NULL if input is NULL	man/assert_vars.Rd
new observations are derived correctly with DuBois & DuBois method	man/assert_vars.Rd
no new observations are added if filtered dataset is empty	man/assert_vars.Rd
an error is issued if PARAMCD is not set	man/assert_vars.Rd
new observations are derived correctly with Mosteller method	man/assert_vars.Rd
a warning is issued when using ‘derive_suppqual_vars()’	man/assert_vars.Rd
Partial date imputed to the mid day/month	man/assert_vars.Rd
new observations are derived correctly with Haycock method	man/assert_vars.Rd
a warning is issued when specifying ‘derive_var_ontrtfl(date =)’	man/assert_vars.Rd
new observations are derived correctly when zero_doses is NULL	man/assert_vars.Rd
new observations are derived correctly	man/assert_vars.Rd
no new observations are added if a parameter is missing	man/assert_vars.Rd
Partial date imputed to the first day/month	man/assert_vars.Rd
BMI parameter is correctly added to input dataset	man/assert_vars.Rd
new observations are derived correctly with constant parameters	man/assert_vars.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/assert_vars.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/assert_vars.Rd
TRTEDTM variable is added	man/assert_vars.Rd
derive_agegr_fda works as expected	man/assert_vars.Rd
derive_agegr_ema works as expected	man/assert_vars.Rd
‘target’ is set to Y when ‘start_date’ is before ‘ref_start_date’ and ‘end_date’ is before ‘ref_end_date’ for Period 01	man/assert_vars.Rd
‘CHG’ is calculated as ‘AVAL - BASE’	man/assert_vars.Rd
new observations are derived correctly with Boyd method	man/assert_vars.Rd
explicitly missing extreme ranges are supported	man/assert_vars.Rd
Errors	man/assert_vars.Rd
Partial date imputed to the last day/month	man/assert_vars.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/assert_vars.Rd
call_derivation works	man/assert_vars.Rd
TRTDURD is added	man/assert_vars.Rd
'target' is set to 'source' where 'ABLFL == 'Y'	man/assert_vars.Rd
check 'set_values_to' mapping	man/assert_vars.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/assert_vars.Rd
a warning is issued when using 'derive_var_basec()	man/assert_vars.Rd
ADY is added	man/assert_vars.Rd
new observations based on DTC variables are derived correctly	man/assert_vars.Rd
records are duplicated across different 'BASETYPE' values	man/assert_vars.Rd
new observations are derived correctly for AVAL	man/assert_vars.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' and no 'ref_end_window' is specified, otherwise NA	man/assert_vars.Rd
derive_agegr_ema works with age_unit missing and multiple units in AGEU (adults)	man/assert_vars.Rd
Filter record within 'by_vars'	man/assert_vars.Rd
'target' is set to 'NA' if a baseline record is missing	man/assert_vars.Rd
only the 'target' variable is added to the input dataset	man/assert_vars.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_vars.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/assert_vars.Rd
derive_var_age_years works as expected	man/assert_vars.Rd
Ignore Seconds Flag is not used when not present in the function call	man/assert_vars.Rd
new observations with analysis datetime are derived correctly	man/assert_vars.Rd
an error is issued all by variables are missing in all source datasets	man/assert_vars.Rd
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/assert_vars.Rd
Test domain paramter	man/assert_vars.Rd
Convert a complete - DTM into a date object	man/assert_vars.Rd
input is filtered if filter is not NULL	man/assert_vars.Rd
Convert a complete - DTM into -TM, TM out is HH:MM:SS	man/assert_vars.Rd
new observations are derived correctly when zero_doses is Y	man/assert_vars.Rd
'target' is set to NA when 'end_date' is missing and 'start_date' is before 'ref_start_date' a la Roche	man/assert_vars.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/assert_vars.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'ref_end_date' and 'filter_pre_timepoint' are not specified	man/assert_vars.Rd
'target' is set to 'Y' when 'end_date' > 'ref_start_date' when 'start_date' is missing	man/assert_vars.Rd
No re-derivation is done if -DTF variable already exists	man/assert_vars.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
implicitly missing extreme ranges are supported	man/assert_vars.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/assert_vars.Rd
input is returned as is if filter is NULL	man/assert_vars.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/assert_vars.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/assert_vars.Rd
records that do not match any condition are kept	man/assert_vars.Rd
error is issued if parameter code already exists	man/assert_vars.Rd
Derive CQ and SMQ variables with two term levels	man/assert_vars.Rd
an error is issued if an invalid method is specified	man/assert_vars.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/assert_vars.Rd
duration and unit variable are added	man/assert_vars.Rd
negate_vars returns list of negated variables	man/assert_vars.Rd
'target' is set to 'Y' when 'filter_pre_timepoint' is not 'PRE' and 'start_date' = 'ref_start_date' and 'ref_end_date' is not specified	man/assert_vars.Rd
derive_vars_last_dose when multiple doses on same date - error	man/assert_vars.Rd
IDVAR is missing, join by USUBJID	man/assert_vars.Rd
Multiple Records for each IDVAR	man/assert_vars.Rd
a warning is issued when specifying 'derive_var_extreme_flag(flag_filter =)'	man/assert_vars.Rd
first observation is selected without grouping	man/assert_vars.Rd
set new value to a derived record	man/assert_vars.Rd
'target' is set to NA when 'end_date' < 'ref_start_date' regardless of start_date being NA	man/assert_vars.Rd
a warning is issued when using 'derive_extreme_flag()'	man/assert_vars.Rd
a warning is issued when using 'derive_obs_number()'	man/assert_vars.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/assert_vars.Rd
by_vars parameter works correctly	man/assert_vars.Rd
first observation for each group are selected	man/assert_vars.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/assert_vars.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_vars.Rd
an error if issued set_values_to contains invalid expressions	man/assert_vars.Rd
derive_agegr_ema - works as expected	man/assert_vars.Rd
a warning is issued when using 'derive_last_dose()'	man/assert_vars.Rd
derive_vars_disposition_reason checks new_var_spe and reason_var_spe	man/assert_vars.Rd
a warning is issued when specifying 'derive_summary_records(filter_rows =)'	man/assert_vars.Rd
derive_vars_last_dose returns traceability vars	man/assert_vars.Rd
an error is issued if some of the by variables are missing	man/assert_vars.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Multiple IDVARs, differing types	man/assert_vars.Rd
creates a new record for each group and new data frame retains grouping	man/assert_vars.Rd
a warning is issued when using ‘derive_disposition_reason()’	man/assert_vars.Rd
ATC variables are merged properly	man/assert_vars.Rd
a warning is issued when using ‘derive_disposition_dt()’	man/assert_vars.Rd
new observations with analysis date are derived correctly	man/assert_vars.Rd
Derive when query dataset does not have QUERY_ID or QUERY_SCOPE column	man/assert_vars.Rd
a warning is issued when using ‘derive_baseline()’	man/assert_vars.Rd
a warning is issued when using ‘derive_disposition_status()’	man/assert_vars.Rd
the merge dataset is transposed and merged correctly	man/assert_vars.Rd
‘target’ is set to ‘Y’ when ‘start_date’ is NA	man/assert_vars.Rd
a warning is issued when using ‘derive_params_exposure()’	man/assert_vars.Rd
Derive when dataset does not have a unique key when excluding ‘TERM_LEVEL’ columns	man/assert_vars.Rd
‘PCHG’ is set to ‘NA’ if ‘BASE == 0’	man/assert_vars.Rd
ABLFL = Y worst observation = HI within a subset	man/assert_vars.Rd
two-sided reference ranges work	man/assert_vars.Rd
derive_var_last_dose_amt works as expected	man/assert_vars.Rd
derive_vars_last_dose checks validity of start and end dose inputs	man/assert_vars.Rd
Derive worst flag works correctly with no worst_high option	man/assert_vars.Rd
Derive worst flag catches invalid parameters	man/assert_vars.Rd
‘target’ is set to ‘Y’ when ‘start_date’ >= ‘ref_start_date’ and ‘start_date’ <= ‘ref_end_date’ + ‘ref_end_window’	man/assert_vars.Rd
a warning is issued when using ‘derive_duration()’	man/assert_vars.Rd
ABLFL = Y average records within a subset	man/assert_vars.Rd
derive_var_last_dose_date returns traceability vars	man/assert_vars.Rd
derive_var_last_dose works as expected with dates only	man/assert_vars.Rd
An error is thrown if a subject has multiple records per ‘PARAMCD’ and ‘BASETYPE’	man/assert_vars.Rd
Derive decides between TERM_NAME and TERM_ID based on the type of the variable	man/assert_vars.Rd
‘fns’ as inlined	man/assert_vars.Rd
Derive EOTSTT using a study specific mapping	man/assert_vars.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/assert_vars.Rd
Derive worst flag works correctly	man/assert_vars.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/assert_vars.Rd
ABLFL = Y worst observation = LO within a subset	man/assert_vars.Rd
new observations are derived correctly with Takahira method	man/assert_vars.Rd
‘PCHG’ is calculated as ‘(AVAL - BASE) / abs(BASE) * 100’	man/assert_vars.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/assert_vars.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
AENDY is added	man/assert_vars.Rd
‘target‘ is set to NA when ‘ref_start_date‘ is NA	man/assert_vars.Rd
Derive ATIREL	man/assert_vars.Rd
derive_vars_last_dose works as expected	man/assert_vars.Rd
one-sided reference ranges work	man/assert_vars.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/assert_vars.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_vars.Rd
ASTDY is added	man/assert_vars.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/assert_vars.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/assert_vars.Rd
derive_last_dose_date works as expected	man/assert_vars.Rd
missing ‘AVAL‘ is handled properly	man/assert_vars.Rd
Partial date imputed to the last day/month, no DTF	man/assert_vars.Rd
Derive RFICDT	man/assert_vars.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/assert_vars.Rd
last observation for each group is flagged, filter works	man/assert_vars.Rd
Derive EOSSTT using default mapping	man/assert_vars.Rd
filtering the merge dataset works	man/assert_vars.Rd
ABLFL = Y using last observation within a subset	man/assert_vars.Rd
Derive when an adverse event is in multiple baskets	man/assert_vars.Rd
‘dthcaus‘ handles symbols and string literals correctly	man/assert_vars.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = FALSE)	man/assert_vars.Rd
derive_var_last_dose checks validity of start and end dose inputs	man/assert_vars.Rd
LSTALVDT is derived for Date class as well	man/assert_vars.Rd
derive_var_last_dose works as expected	man/assert_vars.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets	man/assert_vars.Rd
‘target‘ is set to NA when ‘start_date‘ < ‘ref_start_date‘	man/assert_vars.Rd
derive_var_last_dose_amt returns traceability vars	man/assert_vars.Rd
derive_var_last_dose returns traceability vars	man/assert_vars.Rd
LSTALVDT is derived	man/assert_vars.Rd
LSTALVDT and traceability variables are derived	man/assert_vars.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_vars.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_vars.Rd
DTHCAUS is added from AE and DS	man/assert_vars.Rd
first observation for each group is flagged	man/assert_vars.Rd
LSTALVDT and traceability variables are derived	man/assert_varval_list.Rd
Errors	man/assert_varval_list.Rd
new observations are derived correctly with Gehan & George method	man/assert_varval_list.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
new observations are derived correctly for AVAL	man/assert_varval_list.Rd
new observations are derived correctly with Haycock method	man/assert_varval_list.Rd
new observations are derived correctly	man/assert_varval_list.Rd
error is issued if parameter code already exists	man/assert_varval_list.Rd
new observations are derived correctly when zero_doses is NULL	man/assert_varval_list.Rd
no new observations are added if a parameter is missing	man/assert_varval_list.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/assert_varval_list.Rd
BMI parameter is correctly added to input dataset	man/assert_varval_list.Rd
an error is issued if PARAMCD is not set	man/assert_varval_list.Rd
new observations with analysis date are derived correctly	man/assert_varval_list.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/assert_varval_list.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/assert_varval_list.Rd
new observations are derived correctly when zero_doses is Y	man/assert_varval_list.Rd
derive_vars_last_dose works as expected	man/assert_varval_list.Rd
Filter record within ‘by_vars’	man/assert_varval_list.Rd
new observations are derived correctly with Boyd method	man/assert_varval_list.Rd
derive_var_last_dose_date returns traceability vars	man/assert_varval_list.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/assert_varval_list.Rd
an error is issued if some of the by variables are missing	man/assert_varval_list.Rd
by_vars parameter works correctly	man/assert_varval_list.Rd
new observations with analysis datetime are derived correctly	man/assert_varval_list.Rd
an error is issued all by variables are missing in all source datasets	man/assert_varval_list.Rd
new observations based on DTC variables are derived correctly	man/assert_varval_list.Rd
new observations are derived correctly with Takahira method	man/assert_varval_list.Rd
derive_vars_last_dose returns traceability vars	man/assert_varval_list.Rd
derive_var_last_dose_amt returns traceability vars	man/assert_varval_list.Rd
new observations are derived correctly with Fujimoto method	man/assert_varval_list.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets	man/assert_varval_list.Rd
derive_last_dose_date works as expected	man/assert_varval_list.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/assert_varval_list.Rd
new observations are derived correctly with DuBois & DuBois method	man/assert_varval_list.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/assert_varval_list.Rd
check ‘set_values_to’ mapping	man/assert_varval_list.Rd
DTHCAUS and traceability variables are added from AE and DS	man/assert_varval_list.Rd
LSTALVDT is derived	man/assert_varval_list.Rd
‘tte_source’ objects are printed as intended	man/assert_varval_list.Rd
derive_var_last_dose_amt works as expected	man/assert_varval_list.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/assert_varval_list.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/assert_varval_list.Rd
new observations are derived correctly with constant parameters	man/assert_varval_list.Rd
new observations are derived correctly with Mosteller method	man/assert_varval_list.Rd
a warning is issued when specifying 'dthcaus_source(traceabilty_vars =)	man/assert_varval_list.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/assert_varval_list.Rd
an error if issued set_values_to contains invalid expressions	man/assert_varval_list.Rd
set new value to a derived record	man/assert_varval_list.Rd
no new observations are added if filtered dataset is empty	man/assert_varval_list.Rd
call_derivation works	man/assert_varval_list.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/assert_varval_list.Rd
a warning is issued when using 'derive_params_exposure()	man/assert_varval_list.Rd
'dthcaus' handles symbols and string literals correctly	man/assert_varval_list.Rd
DTHCAUS is added from AE and DS	man/assert_varval_list.Rd
a warning is issued when specifying 'derive_summary_records(filter_rows =)	man/assert_varval_list.Rd
a warning is issued when specifying 'lstalvdt_source(dataset =)	man/assert_varval_list.Rd
a warning is issued when specifying 'dthcaus_source(dataset =)	man/assert_varval_list.Rd
a warning is issued when specifying 'lstalvdt_source(date_var =)	man/assert_varval_list.Rd
a warning is issued when specifying 'dthcaus_source(date_var =)	man/assert_varval_list.Rd
LSTALVDT is derived for Date class as well	man/assert_varval_list.Rd
derive_vars_last_dose checks validity of start and end dose inputs	man/assert_varval_list.Rd
derive_vars_last_dose when multiple doses on same date - error	man/assert_varval_list.Rd
call_derivation works	man/call_derivation.Rd
call_derivation works	man/call_derivation.Rd
new observations with analysis datetime are derived correctly	man/censor_source.Rd
new observations based on DTC variables are derived correctly	man/censor_source.Rd
by_vars parameter works correctly	man/censor_source.Rd
an error if issued set_values_to contains invalid expressions	man/censor_source.Rd
new observations based on DTC variables are derived correctly	man/censor_source.Rd
new observations with analysis datetime are derived correctly	man/censor_source.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/censor_source.Rd
new observations with analysis date are derived correctly	man/censor_source.Rd
error is issued if parameter code already exists	man/censor_source.Rd
an error is issued all by variables are missing in all source datasets	man/censor_source.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/censor_source.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
new observations with analysis date are derived correctly	man/censor_source.Rd
error is issued if parameter code already exists	man/censor_source.Rd
an error is issued if some of the by variables are missing	man/censor_source.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/censor_source.Rd
an error if issued set_values_to contains invalid expressions	man/censor_source.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/censor_source.Rd
by_vars parameter works correctly	man/censor_source.Rd
an error is issued if some of the by variables are missing	man/censor_source.Rd
an error is issued all by variables are missing in all source datasets	man/censor_source.Rd
BMI is calculated correctly	man/compute_bmi.Rd
BMI parameter is correctly added to input dataset	man/compute_bmi.Rd
BMI is calculated correctly	man/compute_bmi.Rd
Takahira - height and weight vectors	man/compute_bsa.Rd
new observations are derived correctly with Takahira method	man/compute_bsa.Rd
Mosteller method - height and weight vectors	man/compute_bsa.Rd
new observations are derived correctly with Boyd method	man/compute_bsa.Rd
Boyd - height and weight vectors	man/compute_bsa.Rd
new observations are derived correctly with Mosteller method	man/compute_bsa.Rd
an error is issued if an invalid method is specified	man/compute_bsa.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/compute_bsa.Rd
DuBois-DuBois method - height and weight vectors	man/compute_bsa.Rd
new observations are derived correctly with Fujimoto method	man/compute_bsa.Rd
Fujimoto - height and weight vectors	man/compute_bsa.Rd
Fujimoto - height and weight vectors	man/compute_bsa.Rd
Takahira - height and weight vectors	man/compute_bsa.Rd
Gehan-George - height and weight vectors	man/compute_bsa.Rd
new observations are derived correctly with Haycock method	man/compute_bsa.Rd
new observations are derived correctly with Gehan & George method	man/compute_bsa.Rd
new observations are derived correctly with DuBois & DuBois method	man/compute_bsa.Rd
Haycock method - height and weight vectors	man/compute_bsa.Rd
Mosteller method - single height and weight values	man/compute_bsa.Rd
Boyd - height and weight vectors	man/compute_bsa.Rd
an error is issued if an invalid method is specified	man/compute_bsa.Rd
Mosteller method - height and weight vectors	man/compute_bsa.Rd
Gehan-George - height and weight vectors	man/compute_bsa.Rd
Mosteller method - single height and weight values	man/compute_bsa.Rd
Haycock method - height and weight vectors	man/compute_bsa.Rd
DuBois-DuBois method - height and weight vectors	man/compute_bsa.Rd
Partial date imputed to the mid day/month	man/compute_dtf.Rd
compute DTF	man/compute_dtf.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
default: no date imputation, time part set o 00:00:00, add DTF	man/compute_dtf.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/compute_dtf.Rd
call_derivation works	man/compute_dtf.Rd
Partial date imputed to the first day/month	man/compute_dtf.Rd
Partial date imputed to the last day/month	man/compute_dtf.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/compute_dtf.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/compute_dtf.Rd
compute DTF	man/compute_dtf.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/compute_dtf.Rd
Ignore Seconds Flag is not used when not present in the function call	man/compute_dtf.Rd
a warning is issued when using ‘derive_duration() duration and unit variable are added	man/compute_duration.Rd
ASTDY is added	man/compute_duration.Rd
ADY is added	man/compute_duration.Rd
age in years	man/compute_duration.Rd
TRTDURD is added	man/compute_duration.Rd
a warning is issued when using ‘derive_aage()’	man/compute_duration.Rd
default duration, i.e., relative day	man/compute_duration.Rd
age in months	man/compute_duration.Rd
fractional duration	man/compute_duration.Rd
age in weeks	man/compute_duration.Rd
AENDY is added	man/compute_duration.Rd
default duration, i.e., relative day	man/compute_duration.Rd
age in weeks	man/compute_duration.Rd
fractional duration	man/compute_duration.Rd
age in months	man/compute_duration.Rd
age in years	man/compute_duration.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/compute_map.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/compute_map.Rd
MAP based on diastolic and systolic blood pressure	man/compute_map.Rd
MAP based on diastolic and systolic blood pressure	man/compute_map.Rd
new observations are derived correctly	man/compute_qtc.Rd
new observations are derived correctly	man/compute_qtc.Rd
new observations are derived correctly	man/compute_rr.Rd
No re-derivation is done if -DTF variable already exists	man/compute_tmf.Rd
Partial date imputed to the mid day/month	man/compute_tmf.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/compute_tmf.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/compute_tmf.Rd
Ignore Seconds Flag is not used when not present in the function call	man/compute_tmf.Rd
Partial date imputed to the first day/month	man/compute_tmf.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/compute_tmf.Rd
compute TMF	man/compute_tmf.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/compute_tmf.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/compute_tmf.Rd
compute TMF	man/compute_tmf.Rd
blank strings are turned into 'NA'	man/convert_blanks_to_na.Rd
attributes are preserved when converting blanks to 'NA'	man/convert_blanks_to_na.Rd
blank strings are turned into 'NA' inside data frames	man/convert_blanks_to_na.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/convert_date_to_dtm.Rd
derive_var_last_dose_amt returns traceability vars	man/convert_date_to_dtm.Rd
Keep - DTM as the original date time object	man/convert_date_to_dtm.Rd
Convert - DT into a date time object	man/convert_date_to_dtm.Rd
Keep - DTM as the original date time object	man/convert_date_to_dtm.Rd
Impute incomplete - DTC into a date time object	man/convert_date_to_dtm.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/convert_date_to_dtm.Rd
Convert a complete - DTC into a date time object	man/convert_date_to_dtm.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/convert_date_to_dtm.Rd
Impute incomplete - DTC into a date time object	man/convert_date_to_dtm.Rd
derive_last_dose_date works as expected	man/convert_date_to_dtm.Rd
Convert a complete - DTC into a date time object	man/convert_date_to_dtm.Rd
derive_var_last_dose_amt works as expected	man/convert_date_to_dtm.Rd
Convert - DT into a date time object	man/convert_date_to_dtm.Rd
derive_vars_last_dose works as expected	man/convert_date_to_dtm.Rd
derive_var_last_dose_date returns traceability vars	man/convert_date_to_dtm.Rd
derive_vars_last_dose returns traceability vars	man/convert_date_to_dtm.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/convert_dtc_to_dt.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/convert_dtc_to_dt.Rd
Partial date imputed to the mid day/month	man/convert_dtc_to_dt.Rd
Partial date imputed to the first day/month	man/convert_dtc_to_dt.Rd
new observations based on DTC variables are derived correctly	man/convert_dtc_to_dt.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Partial date imputed to the last day/month	man/convert_dtc_to_dt.Rd
Derive RFICDT	man/convert_dtc_to_dt.Rd
LSTALVDT is derived	man/convert_dtc_to_dt.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/convert_dtc_to_dt.Rd
an error if issued set_values_to contains invalid expressions	man/convert_dtc_to_dt.Rd
LSTALVDT and traceability variables are derived	man/convert_dtc_to_dt.Rd
Partial date imputed to the last day/month, no DTF	man/convert_dtc_to_dt.Rd
Convert a complete – DTC into a date object	man/convert_dtc_to_dt.Rd
a warning is issued when using ‘derive_disposition_dt()’	man/convert_dtc_to_dt.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/convert_dtc_to_dt.Rd
call_derivation works	man/convert_dtc_to_dt.Rd
by_vars parameter works correctly	man/convert_dtc_to_dt.Rd
Convert a complete – DTC into a date object	man/convert_dtc_to_dt.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/convert_dtc_to_dtm.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/convert_dtc_to_dtm.Rd
Convert a complete – DTC into a date time object	man/convert_dtc_to_dtm.Rd
derive_var_last_dose_amt returns traceability vars	man/convert_dtc_to_dtm.Rd
derive_var_last_dose works as expected with dates only	man/convert_dtc_to_dtm.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/convert_dtc_to_dtm.Rd
a warning is issued when using ‘derive_last_dose()’	man/convert_dtc_to_dtm.Rd
Impute incomplete – DTC into a date time object	man/convert_dtc_to_dtm.Rd
TRTEDTM variable is added	man/convert_dtc_to_dtm.Rd
derive_last_dose_date works as expected	man/convert_dtc_to_dtm.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/convert_dtc_to_dtm.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/convert_dtc_to_dtm.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/convert_dtc_to_dtm.Rd
derive_var_last_dose_amt works as expected	man/convert_dtc_to_dtm.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/convert_dtc_to_dtm.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/convert_dtc_to_dtm.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/convert_dtc_to_dtm.Rd
Partial date imputed to the mid day/month	man/convert_dtc_to_dtm.Rd
derive_var_last_dose works as expected	man/convert_dtc_to_dtm.Rd
derive_var_last_dose_date returns traceability vars	man/convert_dtc_to_dtm.Rd
Partial date imputed to the first day/month	man/convert_dtc_to_dtm.Rd
derive_var_last_dose returns traceability vars	man/convert_dtc_to_dtm.Rd
No re-derivation is done if –DTF variable already exists	man/convert_dtc_to_dtm.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Ignore Seconds Flag is not used when not present in the function call	man/convert_dtc_to_dtm.Rd
derive_vars_last_dose returns traceability vars	man/convert_dtc_to_dtm.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/convert_dtc_to_dtm.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/convert_dtc_to_dtm.Rd
TRTSDTM variable is added	man/convert_dtc_to_dtm.Rd
Convert – DT into a date time object	man/convert_dtc_to_dtm.Rd
derive_vars_last_dose works as expected	man/convert_dtc_to_dtm.Rd
Convert a complete – DTC into a date time object	man/convert_dtc_to_dtm.Rd
new observations are derived correctly	man/default_qtc_paramcd.Rd
a warning is issued when using ‘derive_aage()’	man/derive_aage.Rd
a warning is issued when using ‘derive_aage()’	man/derive_aage.Rd
derive_agegr_ema works with age_unit missing and multiple units in AGEU (adults)	man/derive_agegr_fda.Rd
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/derive_agegr_fda.Rd
derive_agegr_ema works as expected	man/derive_agegr_fda.Rd
derive_agegr_ema - works as expected	man/derive_agegr_fda.Rd
derive_agegr_fda works as expected	man/derive_agegr_fda.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/derive_agegr_fda.Rd
a warning is issued when using ‘derive_baseline()’	man/derive_baseline.Rd
a warning is issued when using ‘derive_baseline()’	man/derive_baseline.Rd
new observations are derived correctly when zero_doses is NULL	man/derive_derived_param.Rd
BMI parameter is correctly added to input dataset	man/derive_derived_param.Rd
new observations are derived correctly with Haycock method	man/derive_derived_param.Rd
new observations are derived correctly with Fujimoto method	man/derive_derived_param.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/derive_derived_param.Rd
new observations are derived correctly with DuBois & DuBois method	man/derive_derived_param.Rd
new observations are derived correctly with Mosteller method	man/derive_derived_param.Rd
new observations are derived correctly with Takahira method	man/derive_derived_param.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/derive_derived_param.Rd
new observations are derived correctly with Gehan & George method	man/derive_derived_param.Rd
new observations are derived correctly with constant parameters	man/derive_derived_param.Rd
new observations are derived correctly	man/derive_derived_param.Rd
no new observations are added if a parameter is missing	man/derive_derived_param.Rd
new observations are derived correctly with Boyd method	man/derive_derived_param.Rd
no new observations are added if filtered dataset is empty	man/derive_derived_param.Rd
new observations are derived correctly when zero_doses is Y	man/derive_derived_param.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/derive_derived_param.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
a warning is issued when using ‘derive_disposition_dt()’	man/derive_disposition_dt.Rd
a warning is issued when using ‘derive_disposition_dt()’	man/derive_disposition_dt.Rd
a warning is issued when using ‘derive_disposition_reason()’	man/derive_disposition_reason.Rd
a warning is issued when using ‘derive_disposition_reason()’	man/derive_disposition_reason.Rd
a warning is issued when using ‘derive_disposition_status()’	man/derive_disposition_status.Rd
a warning is issued when using ‘derive_disposition_status()’	man/derive_disposition_status.Rd
a warning is issued when using ‘derive_duration()’	man/derive_duration.Rd
a warning is issued when using ‘derive_duration()’	man/derive_duration.Rd
a warning is issued when using ‘derive_extreme_flag()’	man/derive_extreme_flag.Rd
a warning is issued when using ‘derive_extreme_flag()’	man/derive_extreme_flag.Rd
a warning is issued when using ‘derive_last_dose()’	man/derive_last_dose.Rd
a warning is issued when using ‘derive_last_dose()’	man/derive_last_dose.Rd
derive_var_last_dose_date returns traceability vars	man/derive_obs_number.Rd
derive_var_last_dose_amt works as expected	man/derive_obs_number.Rd
a warning is issued when using ‘derive_obs_number()’	man/derive_obs_number.Rd
a warning is issued when using ‘derive_obs_number()’	man/derive_obs_number.Rd
derive_var_last_dose_amt returns traceability vars	man/derive_obs_number.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/derive_obs_number.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/derive_obs_number.Rd
derive_vars_last_dose returns traceability vars	man/derive_obs_number.Rd
derive_vars_last_dose works as expected	man/derive_obs_number.Rd
derive_last_dose_date works as expected	man/derive_obs_number.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/derive_obs_number.Rd
BMI parameter is correctly added to input dataset	man/derive_param_bmi.Rd
BMI parameter is correctly added to input dataset	man/derive_param_bmi.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/derive_param_bsa.Rd
new observations are derived correctly with Boyd method	man/derive_param_bsa.Rd
an error is issued if an invalid method is specified	man/derive_param_bsa.Rd
new observations are derived correctly with Takahira method	man/derive_param_bsa.Rd
new observations are derived correctly with Fujimoto method	man/derive_param_bsa.Rd
new observations are derived correctly with Gehan & George method	man/derive_param_bsa.Rd
new observations are derived correctly with DuBois & DuBois method	man/derive_param_bsa.Rd
new observations are derived correctly with Haycock method	man/derive_param_bsa.Rd
new observations are derived correctly with Mosteller method	man/derive_param_bsa.Rd
an error is issued if an invalid method is specified	man/derive_param_bsa.Rd
new observations are derived correctly when zero_doses is Y	man/derive_param_doseint.Rd
new observations are derived correctly when zero_doses is NULL	man/derive_param_doseint.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Errors	
new observations are derived correctly for AVAL	man/derive_param_exposure.Rd
a warning is issued when using ‘derive_params_exposure()’	man/derive_param_exposure.Rd
new observations are derived correctly for AVAL	man/derive_param_exposure.Rd
Errors	man/derive_param_exposure.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/derive_param_map.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/derive_param_map.Rd
an error is issued if PARAMCD is not set	man/derive_param_map.Rd
an error is issued if PARAMCD is not set	man/derive_param_map.Rd
new observations are derived correctly	man/derive_param_qtc.Rd
new observations are derived correctly	man/derive_param_qtc.Rd
new observations are derived correctly	man/derive_param_rr.Rd
by_vars parameter works correctly	man/derive_param_tte.Rd
error is issued if parameter code already exists	man/derive_param_tte.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/derive_param_tte.Rd
an error if issued set_values_to contains invalid expressions	man/derive_param_tte.Rd
new observations with analysis date are derived correctly	man/derive_param_tte.Rd
an error is issued all by variables are missing in all source datasets	man/derive_param_tte.Rd
new observations with analysis datetime are derived correctly	man/derive_param_tte.Rd
new observations based on DTC variables are derived correctly	man/derive_param_tte.Rd
an error is issued if some of the by variables are missing	man/derive_param_tte.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/derive_param_tte.Rd
error is issued if parameter code already exists	man/derive_param_tte.Rd
an error is issued if some of the by variables are missing	man/derive_param_tte.Rd
an error if issued set_values_to contains invalid expressions	man/derive_param_tte.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/derive_param_tte.Rd
an error is issued all by variables are missing in all source datasets	man/derive_param_tte.Rd
a warning is issued when using ‘derive_params_exposure()’	man/derive_params_exposure.Rd
a warning is issued when using ‘derive_params_exposure()’	man/derive_params_exposure.Rd
a warning is issued when using ‘derive_query_vars()’	man/derive_query_vars.Rd
a warning is issued when using ‘derive_query_vars()’	man/derive_query_vars.Rd
set new value to a derived record	man/derive_summary_records.Rd
call_derivation works	man/derive_summary_records.Rd
new observations are derived correctly for AVAL	man/derive_summary_records.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
‘fns’ as inlined	man/derive_summary_records.Rd
Filter record within ‘by_vars’	man/derive_summary_records.Rd
creates a new record for each group and new data frame retains grouping	man/derive_summary_records.Rd
a warning is issued when specifying ‘derive_summary_records(filter_rows =)	man/derive_summary_records.Rd
Errors	man/derive_summary_records.Rd
an error is thrown when specifying ‘derive_summary_records(fns =)	man/derive_summary_records.Rd
check ‘set_values_to’ mapping	man/derive_summary_records.Rd
a warning is issued when using ‘derive_params_exposure()	man/derive_summary_records.Rd
Filter record within ‘by_vars’	man/derive_summary_records.Rd
check ‘set_values_to’ mapping	man/derive_summary_records.Rd
‘fns’ as inlined	man/derive_summary_records.Rd
Errors	man/derive_summary_records.Rd
set new value to a derived record	man/derive_summary_records.Rd
an error is thrown when specifying ‘derive_summary_records(fns =)	man/derive_summary_records.Rd
call_derivation works	man/derive_summary_records.Rd
creates a new record for each group and new data frame retains grouping	man/derive_summary_records.Rd
a warning is issued when specifying ‘derive_summary_records(filter_rows =)	man/derive_summary_records.Rd
a warning is issued when using ‘derive_suppqual_vars()	man/derive_suppqual_vars.Rd
a warning is issued when using ‘derive_suppqual_vars()	man/derive_suppqual_vars.Rd
ADY is added	man/derive_var_ady.Rd
ADY is added	man/derive_var_ady.Rd
AENDY is added	man/derive_var_aendy.Rd
AENDY is added	man/derive_var_aendy.Rd
derive_agegr_ema - works as expected	man/derive_var_age_years.Rd
derive_agegr_fda works as expected	man/derive_var_age_years.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/derive_var_age_years.Rd
derive_var_age_years works as expected	man/derive_var_age_years.Rd
derive_agegr_ema works with age_unit missing and multiple units in AGEU (adults)	man/derive_var_age_years.Rd
derive_agegr_ema works as expected	man/derive_var_age_years.Rd
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/derive_var_age_years.Rd
derive_agegr_ema - works as expected	man/derive_var_agegr_fda.Rd
derive_agegr_ema works as expected	man/derive_var_agegr_fda.Rd
derive_agegr_ema works with age_unit missing and multiple units in AGEU (adults)	man/derive_var_agegr_fda.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/derive_var_agegr_fda.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/derive_var_agegr_fda.Rd
derive_agegr_fda works as expected	man/derive_var_agegr_fda.Rd
two-sided reference ranges work	man/derive_var_anrind.Rd
missing 'AVAL' is handled properly	man/derive_var_anrind.Rd
implicitly missing extreme ranges are supported	man/derive_var_anrind.Rd
one-sided reference ranges work	man/derive_var_anrind.Rd
explicitly missing extreme ranges are supported	man/derive_var_anrind.Rd
ASTDY is added	man/derive_var_astdy.Rd
ASTDY is added	man/derive_var_astdy.Rd
Derive ATIREL	man/derive_var_atirel.Rd
Derive ATIREL	man/derive_var_atirel.Rd
only the 'target' variable is added to the input dataset	man/derive_var_base.Rd
a warning is issued when using 'derive_var_basec()'	man/derive_var_base.Rd
'target' is set to 'source' where 'ABLFL == 'Y''	man/derive_var_base.Rd
'target' is set to 'NA' if a baseline record is missing	man/derive_var_base.Rd
a warning is issued when using 'derive_basec()'	man/derive_var_base.Rd
only the 'target' variable is added to the input dataset	man/derive_var_base.Rd
An error is thrown if a subject has multiple records per 'PARAMCD' and 'BASETYPE'	man/derive_var_base.Rd
'target' is set to 'NA' if a baseline record is missing	man/derive_var_base.Rd
An error is thrown if a subject has multiple records per 'PARAMCD' and 'BASETYPE'	man/derive_var_base.Rd
'target' is set to 'source' where 'ABLFL == 'Y''	man/derive_var_base.Rd
a warning is issued when using 'derive_var_basec()'	man/derive_var_basec.Rd
a warning is issued when using 'derive_var_basec()'	man/derive_var_basec.Rd
records are duplicated across different 'BASETYPE' values	man/derive_var_basetype.Rd
records that do not match any condition are kept	man/derive_var_basetype.Rd
records that do not match any condition are kept	man/derive_var_basetype.Rd
records are duplicated across different 'BASETYPE' values	man/derive_var_basetype.Rd
'CHG' is calculated as 'AVAL - BASE'	man/derive_var_chg.Rd
'CHG' is calculated as 'AVAL - BASE'	man/derive_var_chg.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/derive_var_disposition_dt.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/derive_var_disposition_dt.Rd
a warning is issued when using 'derive_disposition_dt()'	man/derive_var_disposition_dt.Rd
Derive RFICDT	man/derive_var_disposition_dt.Rd
Derive RFICDT	man/derive_var_disposition_dt.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/derive_var_disposition_dt.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/derive_var_disposition_dt.Rd
a warning is issued when using 'derive_disposition_status()'	man/derive_var_disposition_status.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Derive EOTSTT using a study specific mapping	man/derive_var_disposition_status.Rd
Derive EOSSTT using default mapping	man/derive_var_disposition_status.Rd
Derive EOTSTT using a study specific mapping	man/derive_var_disposition_status.Rd
Derive EOSSTT using default mapping	man/derive_var_disposition_status.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/derive_var_dthcaus.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/derive_var_dthcaus.Rd
'dthcaus' handles symbols and string literals correctly	man/derive_var_dthcaus.Rd
DTHCAUS is added from AE and DS	man/derive_var_dthcaus.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets	man/derive_var_dthcaus.Rd
DTHCAUS and traceability variables are added from AE and DS	man/derive_var_dthcaus.Rd
'dthcaus' handles symbols and string literals correctly	man/derive_var_dthcaus.Rd
DTHCAUS is added from AE and DS	man/derive_var_dthcaus.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/derive_var_dthcaus.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets	man/derive_var_dthcaus.Rd
DTHCAUS and traceability variables are added from AE and DS	man/derive_var_dthcaus.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/derive_var_dthcaus.Rd
ABLFL = Y using last observation within a subset	man/derive_var_extreme_flag.Rd
last observation for each group is flagged, filter works	man/derive_var_extreme_flag.Rd
a warning is issued when specifying 'derive_var_extreme_flag(flag_filter =)'	man/derive_var_extreme_flag.Rd
ABLFL = Y worst observation = HI within a subset	man/derive_var_extreme_flag.Rd
first observation for each group is flagged	man/derive_var_extreme_flag.Rd
ABLFL = Y average records within a subset	man/derive_var_extreme_flag.Rd
ABLFL = Y using last observation within a subset	man/derive_var_extreme_flag.Rd
a warning is issued when using 'derive_extreme_flag()'	man/derive_var_extreme_flag.Rd
first observation for each group is flagged	man/derive_var_extreme_flag.Rd
Derive worst flag works correctly	man/derive_var_extreme_flag.Rd
ABLFL = Y worst observation = LO within a subset	man/derive_var_extreme_flag.Rd
Derive worst flag works correctly with no worst_high option	man/derive_var_extreme_flag.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/derive_var_extreme_flag.Rd
ABLFL = Y worst observation = LO within a subset	man/derive_var_extreme_flag.Rd
ABLFL = Y worst observation = HI within a subset	man/derive_var_extreme_flag.Rd
ABLFL = Y average records within a subset	man/derive_var_extreme_flag.Rd
last observation for each group is flagged, filter works	man/derive_var_extreme_flag.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. (*continued*)

Test Description	Documentation
a warning is issued when specifying 'derive_var_extreme_flag(flag_filter =)'	man/derive_var_extreme_flag.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/derive_var_extreme_flag.Rd
derive_var_last_dose_amt works as expected	man/derive_var_last_dose_amt.Rd
derive_var_last_dose_amt works as expected	man/derive_var_last_dose_amt.Rd
derive_var_last_dose_amt returns traceability vars	man/derive_var_last_dose_amt.Rd
derive_var_last_dose_amt returns traceability vars	man/derive_var_last_dose_amt.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/derive_var_last_dose_date.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/derive_var_last_dose_date.Rd
derive_var_last_dose_date returns traceability vars	man/derive_var_last_dose_date.Rd
derive_var_last_dose_date returns traceability vars	man/derive_var_last_dose_date.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/derive_var_last_dose_date.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/derive_var_last_dose_date.Rd
derive_last_dose_date works as expected	man/derive_var_last_dose_grp.Rd
derive_last_dose_date works as expected	man/derive_var_last_dose_grp.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/derive_var_last_dose.Rd
a warning is issued when using 'derive_last_dose()'	man/derive_var_last_dose.Rd
derive_var_last_dose checks validity of start and end dose inputs	man/derive_var_last_dose.Rd
derive_var_last_dose works as expected with dates only	man/derive_var_last_dose.Rd
derive_var_last_dose works as expected	man/derive_var_last_dose.Rd
derive_var_last_dose returns traceability vars	man/derive_var_last_dose.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = FALSE)	man/derive_var_last_dose.Rd
derive_var_last_dose works as expected	man/derive_var_last_dose.Rd
derive_var_last_dose checks validity of start and end dose inputs	man/derive_var_last_dose.Rd
derive_var_last_dose works as expected with dates only	man/derive_var_last_dose.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = FALSE)	man/derive_var_last_dose.Rd
derive_var_last_dose returns traceability vars	man/derive_var_last_dose.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/derive_var_last_dose.Rd
LSTALVDT and traceability variables are derived	man/derive_var_lstalvdt.Rd
LSTALVDT is derived	man/derive_var_lstalvdt.Rd
LSTALVDT and traceability variables are derived	man/derive_var_lstalvdt.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
LSTALVDT is derived for Date class as well	man/derive_var_lstalvdt.Rd
LSTALVDT is derived for Date class as well	man/derive_var_lstalvdt.Rd
LSTALVDT is derived	man/derive_var_lstalvdt.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/derive_var_obs_number.Rd
DTHCAUS is added from AE and DS	man/derive_var_obs_number.Rd
new observations with analysis date are derived correctly	man/derive_var_obs_number.Rd
by_vars parameter works correctly	man/derive_var_obs_number.Rd
'dthcaus' handles symbols and string literals correctly	man/derive_var_obs_number.Rd
last observation for each group is flagged, filter works	man/derive_var_obs_number.Rd
new observations based on DTC variables are derived correctly	man/derive_var_obs_number.Rd
Derive worst flag works correctly with no worst_high option	man/derive_var_obs_number.Rd
ABLFL = Y using last observation within a subset	man/derive_var_obs_number.Rd
a warning is issued when using 'derive_extreme_flag()'	man/derive_var_obs_number.Rd
derive_last_dose_date works as expected	man/derive_var_obs_number.Rd
ABLFL = Y average records within a subset	man/derive_var_obs_number.Rd
new observations with analysis datetime are derived correctly	man/derive_var_obs_number.Rd
ABLFL = Y worst observation = LO within a subset	man/derive_var_obs_number.Rd
ABLFL = Y worst observation = HI within a subset	man/derive_var_obs_number.Rd
TRTEDTM variable is added	man/derive_var_obs_number.Rd
first observation for each group are selected	man/derive_var_obs_number.Rd
a warning is issued when using 'derive_obs_number()'	man/derive_var_obs_number.Rd
first observation for each group is flagged	man/derive_var_obs_number.Rd
an error if issued set_values_ to contains invalid expressions	man/derive_var_obs_number.Rd
LSTALVDT is derived for Date class as well	man/derive_var_obs_number.Rd
derive_var_last_dose_amt returns traceability vars	man/derive_var_obs_number.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/derive_var_obs_number.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/derive_var_obs_number.Rd
derive_var_last_dose_date returns traceability vars	man/derive_var_obs_number.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/derive_var_obs_number.Rd
derive_var_last_dose_amt works as expected	man/derive_var_obs_number.Rd
DTHCAUS and traceability variables are added from AE and DS	man/derive_var_obs_number.Rd
a warning is issued when specifying 'derive_extreme_flag(flag_filter =)'	man/derive_var_obs_number.Rd
derive_vars_last_dose returns traceability vars	man/derive_var_obs_number.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/derive_var_obs_number.Rd
first observation is selected without grouping	man/derive_var_obs_number.Rd
LSTALVDT and traceability variables are derived	man/derive_var_obs_number.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/derive_var_obs_number.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/derive_var_obs_number.Rd
Derive worst flag works correctly	man/derive_var_obs_number.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
derive_vars_last_dose works as expected	man/derive_var_obs_number.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/derive_var_obs_number.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/derive_var_obs_number.Rd
TRTSDTM variable is added	man/derive_var_obs_number.Rd
LSTALVDT is derived	man/derive_var_obs_number.Rd
'target' is set to Y when 'end_date' is missing and 'start_date' is before 'ref_start_date' a la GSK	man/derive_var_ontrfl.Rd
a warning is issued when specifying 'derive_var_ontrfl(date =)	man/derive_var_ontrfl.Rd
'target' is set to NA when 'end_date' < 'ref_start_date' regardless of start_date being NA	man/derive_var_ontrfl.Rd
'target' is set to 'Y' when 'start_date' is NA	man/derive_var_ontrfl.Rd
'target' is set to NA when 'end_date' is missing and 'start_date' is before 'ref_start_date' a la Roche	man/derive_var_ontrfl.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' and no 'ref_end_window' is specified, otherwise NA	man/derive_var_ontrfl.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'ref_end_date' and 'filter_pre_timepoint' are not specified	man/derive_var_ontrfl.Rd
'target' is set to 'Y' when 'end_date' > 'ref_start_date' when 'start_date' is missing	man/derive_var_ontrfl.Rd
'target' is set to NA when 'end_date' is missing and 'start_date' is before 'ref_start_date' a la Roche	man/derive_var_ontrfl.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'ref_end_date' and 'filter_pre_timepoint' are not specified	man/derive_var_ontrfl.Rd
'target' is set to 'Y' when 'filter_pre_timepoint' is not 'PRE' and 'start_date' = 'ref_start_date' and 'ref_end_date' is not specified	man/derive_var_ontrfl.Rd
'target' is set to NA when 'end_date' < 'ref_start_date' regardless of start_date being NA	man/derive_var_ontrfl.Rd
'target' is set to NA when 'start_date' < 'ref_start_date'	man/derive_var_ontrfl.Rd
'target' is set to Y when 'end_date' is missing and 'start_date' is before 'ref_start_date' a la GSK	man/derive_var_ontrfl.Rd
'target' is set to 'Y' when 'start_date' is NA	man/derive_var_ontrfl.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' + 'ref_end_window'	man/derive_var_ontrfl.Rd
'target' is set to NA when 'start_date' < 'ref_start_date'	man/derive_var_ontrfl.Rd
'target' is set to 'Y' when 'end_date' > 'ref_start_date' when 'start_date' is missing	man/derive_var_ontrfl.Rd
'target' is set to Y when 'start_date' is before 'ref_start_date' and 'end_date' is before 'ref_end_date' for Period 01	man/derive_var_ontrfl.Rd
'target' is set to NA when 'ref_start_date' is NA	man/derive_var_ontrfl.Rd
'target' is set to NA when 'ref_start_date' is NA	man/derive_var_ontrfl.Rd
'target' is set to Y when 'start_date' is before 'ref_start_date' and 'end_date' is before 'ref_end_date' for Period 01	man/derive_var_ontrfl.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' and no 'ref_end_window' is specified, otherwise NA	man/derive_var_ontrtfl.Rd
'target' is set to 'Y' when 'filter_pre_timepoint' is not 'PRE' and 'start_date' = 'ref_start_date' and 'ref_end_date' is not specified	man/derive_var_ontrtfl.Rd
a warning is issued when specifying 'derive_var_ontrtfl(date =)	man/derive_var_ontrtfl.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' + 'ref_end_window'	man/derive_var_ontrtfl.Rd
'PCHG' is calculated as '(AVAL - BASE) / abs(BASE) * 100'	man/derive_var_pchg.Rd
'PCHG' is calculated as '(AVAL - BASE) / abs(BASE) * 100'	man/derive_var_pchg.Rd
'PCHG' is set to 'NA' if 'BASE == 0'	man/derive_var_pchg.Rd
'PCHG' is set to 'NA' if 'BASE == 0'	man/derive_var_pchg.Rd
TRTDURD is added	man/derive_var_trtdurd.Rd
TRTDURD is added	man/derive_var_trtdurd.Rd
TRTEDTM variable is added	man/derive_var_trtedtm.Rd
TRTEDTM variable is added	man/derive_var_trtedtm.Rd
TRTSDTM variable is added	man/derive_var_trtsdtm.Rd
TRTSDTM variable is added	man/derive_var_trtsdtm.Rd
Derive worst flag works correctly with no worst_high option	man/derive_var_worst_flag.Rd
Derive worst flag catches invalid parameters	man/derive_var_worst_flag.Rd
Derive worst flag works correctly	man/derive_var_worst_flag.Rd
Derive worst flag catches invalid parameters	man/derive_var_worst_flag.Rd
Derive worst flag works correctly	man/derive_var_worst_flag.Rd
Derive worst flag works correctly with no worst_high option	man/derive_var_worst_flag.Rd
duration and unit variable are added	man/derive_vars_aage.Rd
a warning is issued when using 'derive_aage()'	man/derive_vars_aage.Rd
ATC variables are merged properly	man/derive_vars_atc.Rd
ATC variables are merged properly	man/derive_vars_atc.Rd
a warning is issued when using 'derive_disposition_reason()'	man/derive_vars_disposition_reason.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/derive_vars_disposition_reason.Rd
derive_vars_disposition_reason checks new_var_spe and reason_var_spe	man/derive_vars_disposition_reason.Rd
Derive DCSREAS using default mapping	man/derive_vars_disposition_reason.Rd
derive_vars_disposition_reason checks new_var_spe and reason_var_spe	man/derive_vars_disposition_reason.Rd
Derive DCSREAS using default mapping	man/derive_vars_disposition_reason.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/derive_vars_disposition_reason.Rd
call_derivation works	man/derive_vars_dt.Rd
Partial date imputed to the first day/month	man/derive_vars_dt.Rd
Partial date imputed to the last day/month, no DTF	man/derive_vars_dt.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Partial date imputed to the mid day/month	man/derive_vars_dt.Rd
Partial date imputed to the last day/month	man/derive_vars_dt.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/derive_vars_dt.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/derive_vars_dt.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/derive_vars_dt.Rd
Derive RFICDT	man/derive_vars_dt.Rd
a warning is issued when using ‘derive_disposition_dt()’	man/derive_vars_dt.Rd
Partial date imputed to the mid day/month	man/derive_vars_dt.Rd
Partial date imputed to the first day/month	man/derive_vars_dt.Rd
Partial date imputed to the last day/month	man/derive_vars_dt.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/derive_vars_dt.Rd
Partial date imputed to the last day/month, no DTF	man/derive_vars_dt.Rd
call_derivation works	man/derive_vars_dt.Rd
Convert a complete – DTM into a date object	man/derive_vars_dtm_to_dt.Rd
Convert a complete – DTM into a date object	man/derive_vars_dtm_to_dt.Rd
Convert a complete – DTM into –TM, TM out is HH:MM:SS	man/derive_vars_dtm_to_tm.Rd
Convert a complete – DTM into –TM, TM out is HH:MM:SS	man/derive_vars_dtm_to_tm.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/derive_vars_dtm.Rd
No re-derivation is done if –DTF variable already exists	man/derive_vars_dtm.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/derive_vars_dtm.Rd
Partial date imputed to the mid day/month	man/derive_vars_dtm.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/derive_vars_dtm.Rd
Ignore Seconds Flag is not used when not present in the function call	man/derive_vars_dtm.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/derive_vars_dtm.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/derive_vars_dtm.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/derive_vars_dtm.Rd
Partial date imputed to the first day/month	man/derive_vars_dtm.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/derive_vars_dtm.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/derive_vars_dtm.Rd
No re-derivation is done if –DTF variable already exists	man/derive_vars_dtm.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/derive_vars_dtm.Rd
Ignore Seconds Flag is not used when not present in the function call	man/derive_vars_dtm.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Ignore Seconds Flag is not used when set to FALSE in function call	man/derive_vars_dtm.Rd
Partial date imputed to the mid day/month	man/derive_vars_dtm.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/derive_vars_dtm.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/derive_vars_dtm.Rd
Partial date imputed to the first day/month	man/derive_vars_dtm.Rd
a warning is issued when using ‘derive_duration()’	man/derive_vars_duration.Rd
a warning is issued when using ‘derive_aage()’	man/derive_vars_duration.Rd
duration and unit variable are added	man/derive_vars_duration.Rd
ASTDY is added	man/derive_vars_duration.Rd
ADY is added	man/derive_vars_duration.Rd
TRTDURD is added	man/derive_vars_duration.Rd
AENDY is added	man/derive_vars_duration.Rd
duration and unit variable are added	man/derive_vars_duration.Rd
derive_last_dose_date works as expected	man/derive_vars_last_dose.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/derive_vars_last_dose.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/derive_vars_last_dose.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/derive_vars_last_dose.Rd
derive_var_last_dose_amt returns traceability vars	man/derive_vars_last_dose.Rd
derive_vars_last_dose checks validity of start and end dose inputs	man/derive_vars_last_dose.Rd
derive_vars_last_dose when multiple doses on same date - error	man/derive_vars_last_dose.Rd
derive_vars_last_dose works as expected	man/derive_vars_last_dose.Rd
derive_var_last_dose_date returns traceability vars	man/derive_vars_last_dose.Rd
derive_vars_last_dose returns traceability vars	man/derive_vars_last_dose.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/derive_vars_last_dose.Rd
derive_var_last_dose_amt works as expected	man/derive_vars_last_dose.Rd
derive_vars_last_dose when multiple doses on same date - error	man/derive_vars_last_dose.Rd
derive_vars_last_dose returns traceability vars	man/derive_vars_last_dose.Rd
derive_vars_last_dose checks validity of start and end dose inputs	man/derive_vars_last_dose.Rd
derive_vars_last_dose works as expected	man/derive_vars_last_dose.Rd
Derive CQ and SMQ variables with two term levels	man/derive_vars_query.Rd
Derive decides between TERM_NAME and TERM_ID based on the type of the variable	man/derive_vars_query.Rd
Derive when an adverse event is in multiple baskets	man/derive_vars_query.Rd
a warning is issued when using ‘derive_query_vars()’	man/derive_vars_query.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Derive when dataset does not have a unique key when excluding ‘TERM_LEVEL’ columns	man/derive_vars_query.Rd
Derive when query dataset does not have QUERY_ID or QUERY_SCOPE column	man/derive_vars_query.Rd
Derive when query dataset does not have QUERY_ID or QUERY_SCOPE column	man/derive_vars_query.Rd
Derive decides between TERM_NAME and TERM_ID based on the type of the variable	man/derive_vars_query.Rd
Derive when an adverse event is in multiple baskets	man/derive_vars_query.Rd
Derive when dataset does not have a unique key when excluding ‘TERM_LEVEL’ columns	man/derive_vars_query.Rd
Derive CQ and SMQ variables with two term levels	man/derive_vars_query.Rd
Multiple Records for each IDVAR	man/derive_vars_suppqual.Rd
Test domain paramter	man/derive_vars_suppqual.Rd
a warning is issued when using ‘derive_suppqual_vars()’	man/derive_vars_suppqual.Rd
Multiple IDVARs, differing types	man/derive_vars_suppqual.Rd
Errors	man/derive_vars_suppqual.Rd
IDVAR is missing, join by USUBJID	man/derive_vars_suppqual.Rd
IDVAR is missing, join by USUBJID	man/derive_vars_suppqual.Rd
Errors	man/derive_vars_suppqual.Rd
Test domain paramter	man/derive_vars_suppqual.Rd
Multiple Records for each IDVAR	man/derive_vars_suppqual.Rd
Multiple IDVARs, differing types	man/derive_vars_suppqual.Rd
ATC variables are merged properly	man/derive_vars_transposed.Rd
the merge dataset is transposed and merged correctly	man/derive_vars_transposed.Rd
filtering the merge dataset works	man/derive_vars_transposed.Rd
filtering the merge dataset works	man/derive_vars_transposed.Rd
the merge dataset is transposed and merged correctly	man/derive_vars_transposed.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets	man/dthcaus_source.Rd
DTHCAUS and traceability variables are added from AE and DS	man/dthcaus_source.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets	man/dthcaus_source.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/dthcaus_source.Rd
DTHCAUS is added from AE and DS	man/dthcaus_source.Rd
a warning is issued when specifying ‘dthcaus_source(dataset =)’	man/dthcaus_source.Rd
DTHCAUS is added from AE and DS	man/dthcaus_source.Rd
DTHCAUS and traceability variables are added from AE and DS	man/dthcaus_source.Rd
a warning is issued when specifying ‘dthcaus_source(date_var =)’	man/dthcaus_source.Rd
‘dthcaus’ handles symbols and string literals correctly	man/dthcaus_source.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/dthcaus_source.Rd
a warning is issued when specifying ‘dthcaus_source(traceability_vars =)’	man/dthcaus_source.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
a warning is issued when specifying ‘dthcaus_source(date_var =)	man/dthcaus_source.Rd
error on a dthcaus_source object with invalid mode	man/dthcaus_source.Rd
error on a dthcaus_source object with invalid mode	man/dthcaus_source.Rd
‘dthcaus’ handles symbols and string literals correctly	man/dthcaus_source.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/dthcaus_source.Rd
a warning is issued when specifying ‘dthcaus_source(dataset =)	man/dthcaus_source.Rd
a warning is issued when specifying ‘dthcaus_source(traceability_vars =)	man/dthcaus_source.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/dthcaus_source.Rd
by_vars parameter works correctly	man/event_source.Rd
new observations with analysis datetime are derived correctly	man/event_source.Rd
‘tte_source’ objects are printed as intended	man/event_source.Rd
an error is issued if some of the by variables are missing	man/event_source.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/event_source.Rd
new observations with analysis date are derived correctly	man/event_source.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/event_source.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/event_source.Rd
error is issued if parameter code already exists	man/event_source.Rd
‘tte_source’ objects are printed as intended	man/event_source.Rd
new observations with analysis datetime are derived correctly	man/event_source.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/event_source.Rd
by_vars parameter works correctly	man/event_source.Rd
new observations with analysis date are derived correctly	man/event_source.Rd
error is issued if parameter code already exists	man/event_source.Rd
new observations based on DTC variables are derived correctly	man/event_source.Rd
an error if issued set_values_to contains invalid expressions	man/event_source.Rd
an error is issued all by variables are missing in all source datasets	man/event_source.Rd
an error if issued set_values_to contains invalid expressions	man/event_source.Rd
an error is issued if some of the by variables are missing	man/event_source.Rd
an error is issued all by variables are missing in all source datasets	man/event_source.Rd
new observations based on DTC variables are derived correctly	man/event_source.Rd
Derive CQ and SMQ variables with two term levels	man/expect_dfs_equal.Rd
by_vars parameter works correctly	man/expect_dfs_equal.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/expect_dfs_equal.Rd
Derive CQ and SMQ variables with two term levels	man/expect_dfs_equal.Rd
by_vars parameter works correctly	man/expect_dfs_equal.Rd
duration and unit variable are added	man/expect_dfs_equal.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
new observations analysis datetime based on DTC variables are derived correctly	man/expect_dfs_equal.Rd
first observation is selected without grouping	man/expect_dfs_equal.Rd
derive_agegr_ema works as expected	man/expect_dfs_equal.Rd
new observations with analysis datetime are derived correctly	man/expect_dfs_equal.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/expect_dfs_equal.Rd
Convert a complete – DTM into a date object	man/expect_dfs_equal.Rd
new observations are derived correctly	man/expect_dfs_equal.Rd
new observations based on DTC variables are derived correctly	man/expect_dfs_equal.Rd
‘fns’ as inlined	man/expect_dfs_equal.Rd
set new value to a derived record	man/expect_dfs_equal.Rd
derive_var_age_years works as expected	man/expect_dfs_equal.Rd
Filter record within ‘by_vars’	man/expect_dfs_equal.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/expect_dfs_equal.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/expect_dfs_equal.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/expect_dfs_equal.Rd
Partial date imputed to the last day/month, no DTF	man/expect_dfs_equal.Rd
new observations with analysis date are derived correctly	man/expect_dfs_equal.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/expect_dfs_equal.Rd
TRTEDTM variable is added	man/expect_dfs_equal.Rd
Convert a complete – DTM into –TM, TM out is HH:MM:SS	man/expect_dfs_equal.Rd
TRTSDTM variable is added	man/expect_dfs_equal.Rd
‘fns’ as inlined	man/expect_dfs_equal.Rd
first observation for each group are selected	man/expect_dfs_equal.Rd
new observations are derived correctly for AVAL	man/expect_dfs_equal.Rd
new observations are derived correctly with constant parameters	man/expect_dfs_equal.Rd
only the ‘target’ variable is added to the input dataset	man/expect_dfs_equal.Rd
new observations are derived correctly	man/expect_dfs_equal.Rd
input is filtered if filter is not NULL	man/expect_dfs_equal.Rd
call_derivation works	man/expect_dfs_equal.Rd
new observations with analysis datetime are derived correctly	man/expect_dfs_equal.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/expect_dfs_equal.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/expect_dfs_equal.Rd
derive_agegr_fda works as expected	man/expect_dfs_equal.Rd
new observations are derived correctly when zero_doses is Y	man/expect_dfs_equal.Rd
first observation for each group is flagged	man/expect_dfs_equal.Rd
Derive worst flag works correctly	man/expect_dfs_equal.Rd
‘target’ is set to Y when ‘start_date’ is before ‘ref_start_date’ and ‘end_date’ is before ‘ref_end_date’ for Period 01	man/expect_dfs_equal.Rd
Filter record within ‘by_vars’	man/expect_dfs_equal.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. (*continued*)

Test Description	Documentation
Derive worst flag works correctly with no worst_high option	man/expect_dfs_equal.Rd
new observations are derived correctly with Gehan & George method	man/expect_dfs_equal.Rd
derive_var_last_dose returns traceability vars	man/expect_dfs_equal.Rd
one-sided reference ranges work	man/expect_dfs_equal.Rd
expect_dfs_equal works	man/expect_dfs_equal.Rd
records that do not match any condition are kept	man/expect_dfs_equal.Rd
two-sided reference ranges work	man/expect_dfs_equal.Rd
derive_agegr_ema - works as expected	man/expect_dfs_equal.Rd
new observations are derived correctly when zero_doses is Y	man/expect_dfs_equal.Rd
derive_var_age_years works as expected	man/expect_dfs_equal.Rd
new observations based on DTC variables are derived correctly	man/expect_dfs_equal.Rd
implicitly missing extreme ranges are supported	man/expect_dfs_equal.Rd
first observation for each group is flagged	man/expect_dfs_equal.Rd
Convert a complete - DTM into a date object	man/expect_dfs_equal.Rd
Derive EOTSTT using a study specific mapping	man/expect_dfs_equal.Rd
ABLFL = Y average records within a subset	man/expect_dfs_equal.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/expect_dfs_equal.Rd
'target' is set to Y when 'end_date' is missing and 'start_date' is before 'ref_start_date' a la GSK	man/expect_dfs_equal.Rd
ATC variables are merged properly	man/expect_dfs_equal.Rd
new observations are derived correctly with Haycock method	man/expect_dfs_equal.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/expect_dfs_equal.Rd
derive_last_dose_date works as expected	man/expect_dfs_equal.Rd
derive_vars_last_dose returns traceability vars	man/expect_dfs_equal.Rd
Derive EOSSTT using default mapping	man/expect_dfs_equal.Rd
ABLFL = Y worst observation = HI within a subset	man/expect_dfs_equal.Rd
set new value to a derived record	man/expect_dfs_equal.Rd
new observations are derived correctly with Takahira method	man/expect_dfs_equal.Rd
no new observations are added if filtered dataset is empty	man/expect_dfs_equal.Rd
filtering the merge dataset works	man/expect_dfs_equal.Rd
new observations are derived correctly with Mosteller method	man/expect_dfs_equal.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/expect_dfs_equal.Rd
new observations are derived correctly with Takahira method	man/expect_dfs_equal.Rd
input is returned as is if filter is NULL	man/expect_dfs_equal.Rd
derive_var_last_dose works as expected	man/expect_dfs_equal.Rd
duration and unit variable are added	man/expect_dfs_equal.Rd
Derive RFICDT	man/expect_dfs_equal.Rd
derive_var_last_dose_amt returns traceability vars	man/expect_dfs_equal.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/expect_dfs_equal.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/expect_dfs_equal.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/expect_dfs_equal.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. (*continued*)

Test Description	Documentation
derive_vars_last_dose works as expected	man/expect_dfs_equal.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/expect_dfs_equal.Rd
Derive DCSREAS using default mapping	man/expect_dfs_equal.Rd
no new observations are added if a parameter is missing	man/expect_dfs_equal.Rd
derive_var_last_dose_amt works as expected	man/expect_dfs_equal.Rd
derive_agegr_fda works as expected	man/expect_dfs_equal.Rd
‘target‘ is set to ‘NA‘ if a baseline record is missing	man/expect_dfs_equal.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/expect_dfs_equal.Rd
records are duplicated across different ‘BASETYPE‘ values	man/expect_dfs_equal.Rd
new observations are derived correctly with Boyd method	man/expect_dfs_equal.Rd
new observations are derived correctly with Fujimoto method	man/expect_dfs_equal.Rd
explicitly missing extreme ranges are supported	man/expect_dfs_equal.Rd
derive_var_last_dose_date returns traceability vars	man/expect_dfs_equal.Rd
LSTALVDT is derived	man/expect_dfs_equal.Rd
derive_var_last_dose works as expected with dates only	man/expect_dfs_equal.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/expect_dfs_equal.Rd
missing ‘AVAL‘ is handled properly	man/expect_dfs_equal.Rd
DTHCAUS and traceability variables are added from AE and DS	man/expect_dfs_equal.Rd
no new observations are added if a parameter is missing	man/expect_dfs_equal.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/expect_dfs_equal.Rd
last observation for each group is flagged, filter works	man/expect_dfs_equal.Rd
call_derivation works	man/expect_dfs_equal.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/expect_dfs_equal.Rd
new observations are derived correctly with DuBois & DuBois method	man/expect_dfs_equal.Rd
Derive RFICDT	man/expect_dfs_equal.Rd
Partial date imputed to the last day/month, no DTF	man/expect_dfs_equal.Rd
derive_agegr_ema works with age_unit missing and multiple units in AGEU (adults)	man/expect_dfs_equal.Rd
new observations are derived correctly with Mosteller method	man/expect_dfs_equal.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/expect_dfs_equal.Rd
ABLFL = Y using last observation within a subset	man/expect_dfs_equal.Rd
new observations are derived correctly for AVAL	man/expect_dfs_equal.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/expect_dfs_equal.Rd
records that do not match any condition are kept	man/expect_dfs_equal.Rd
new observations are derived correctly when zero_doses is NULL	man/expect_dfs_equal.Rd
new observations are derived correctly with constant parameters	man/expect_dfs_equal.Rd
derive_vars_last_dose returns traceability vars	man/expect_dfs_equal.Rd
derive_vars_last_dose works as expected	man/expect_dfs_equal.Rd
the merge dataset is transposed and merged correctly	man/expect_dfs_equal.Rd
Derive EOTSTT using a study specific mapping	man/expect_dfs_equal.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. (*continued*)

Test Description	Documentation
derive_agegr_ema - works as expected	man/expect_dfs_equal.Rd
Multiple Records for each IDVAR	man/expect_dfs_equal.Rd
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/expect_dfs_equal.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/expect_dfs_equal.Rd
‘target‘ is set to NA when ‘end_date‘ is missing and ‘start_date‘ is before ‘ref_start_date‘ a la Roche	man/expect_dfs_equal.Rd
one-sided reference ranges work	man/expect_dfs_equal.Rd
missing ‘AVAL‘ is handled properly	man/expect_dfs_equal.Rd
‘target‘ is set to ‘Y‘ when ‘start_date‘ is NA	man/expect_dfs_equal.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/expect_dfs_equal.Rd
derive_agegr_ema works with age_unit missing and multiple units in AGEU (adults)	man/expect_dfs_equal.Rd
no new observations are added if filtered dataset is empty	man/expect_dfs_equal.Rd
‘target‘ is set to ‘source‘ where ‘ABLFL == ‘Y‘	man/expect_dfs_equal.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/expect_dfs_equal.Rd
Derive ATIREL	man/expect_dfs_equal.Rd
new observations with analysis date are derived correctly	man/expect_dfs_equal.Rd
default: no date imputation, time part set to 00:00:00, add DTF	man/expect_dfs_equal.Rd
last observation for each group is flagged, filter works	man/expect_dfs_equal.Rd
ABLFL = Y worst observation = LO within a subset	man/expect_dfs_equal.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/expect_dfs_equal.Rd
Test domain parameter	man/expect_dfs_equal.Rd
derive_agegr_ema works as expected	man/expect_dfs_equal.Rd
‘dthcaus‘ handles symbols and string literals correctly	man/expect_dfs_equal.Rd
‘target‘ is set to ‘Y‘ when ‘end_date‘ > ‘ref_start_date‘ when ‘start_date‘ is missing	man/expect_dfs_equal.Rd
‘target‘ is set to NA when ‘start_date‘ < ‘ref_start_date‘	man/expect_dfs_equal.Rd
first observation is selected without grouping	man/expect_dfs_equal.Rd
DTHCAUS and traceability variables are added from AE and DS	man/expect_dfs_equal.Rd
Derive EOSSTT using default mapping	man/expect_dfs_equal.Rd
new observations are derived correctly when zero_doses is NULL	man/expect_dfs_equal.Rd
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/expect_dfs_equal.Rd
‘dthcaus‘ handles symbols and string literals correctly	man/expect_dfs_equal.Rd
ABLFL = Y worst observation = LO within a subset	man/expect_dfs_equal.Rd
‘target‘ is set to Y when ‘end_date‘ is missing and ‘start_date‘ is before ‘ref_start_date‘ a la GSK	man/expect_dfs_equal.Rd
ABLFL = Y worst observation = HI within a subset	man/expect_dfs_equal.Rd
new observations are derived correctly with Boyd method	man/expect_dfs_equal.Rd
Multiple IDVARs, differing types	man/expect_dfs_equal.Rd
Convert a complete - DTM into -TM, TM out is HH:MM:SS	man/expect_dfs_equal.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
new observations are derived correctly with Fujimoto method	man/expect_dfs_equal.Rd
explicitly missing extreme ranges are supported	man/expect_dfs_equal.Rd
two-sided reference ranges work	man/expect_dfs_equal.Rd
‘target’ is set to ‘Y’ when ‘start_date’ >= ‘ref_start_date’ and ‘start_date’ <= ‘ref_end_date’ + ‘ref_end_window’	man/expect_dfs_equal.Rd
‘target’ is set to NA when ‘end_date’ < ‘ref_start_date’ regardless of start_date being NA	man/expect_dfs_equal.Rd
‘target’ is set to NA when ‘ref_start_date’ is NA	man/expect_dfs_equal.Rd
DTHCAUS is added from AE and DS	man/expect_dfs_equal.Rd
‘target’ is set to ‘NA’ if a baseline record is missing	man/expect_dfs_equal.Rd
IDVAR is missing, join by USUBJID	man/expect_dfs_equal.Rd
new observations are derived correctly with Gehan & George method	man/expect_dfs_equal.Rd
LSTALVDT and traceability variables are derived	man/expect_dfs_equal.Rd
LSTALVDT is derived for Date class as well	man/expect_dfs_equal.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/expect_dfs_equal.Rd
Derive ATIREL	man/expect_dfs_equal.Rd
LSTALVDT is derived for Date class as well	man/expect_dfs_equal.Rd
first observation for each group are selected	man/expect_dfs_equal.Rd
‘target’ is set to ‘source’ where ‘ABLFL == ‘Y’	man/expect_dfs_equal.Rd
only the ‘target’ variable is added to the input dataset	man/expect_dfs_equal.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/expect_dfs_equal.Rd
‘target’ is set to NA when ‘end_date’ is missing and ‘start_date’ is before ‘ref_start_date’ a la Roche	man/expect_dfs_equal.Rd
LSTALVDT is derived	man/expect_dfs_equal.Rd
input is filtered if filter is not NULL	man/expect_dfs_equal.Rd
derive_var_last_dose returns traceability vars	man/expect_dfs_equal.Rd
ABLFL = Y using last observation within a subset	man/expect_dfs_equal.Rd
LSTALVDT and traceability variables are derived	man/expect_dfs_equal.Rd
implicitly missing extreme ranges are supported	man/expect_dfs_equal.Rd
‘target’ is set to ‘Y’ when ‘start_date’ >= ‘ref_start_date’ and ‘start_date’ <= ‘ref_end_date’ and no ‘ref_end_window’ is specified, otherwise NA	man/expect_dfs_equal.Rd
records are duplicated across different ‘BASETYPE’ values	man/expect_dfs_equal.Rd
‘target’ is set to ‘Y’ when ‘end_date’ > ‘ref_start_date’ when ‘start_date’ is missing	man/expect_dfs_equal.Rd
new observations are derived correctly with DuBois & DuBois method	man/expect_dfs_equal.Rd
new observations are derived correctly with Haycock method	man/expect_dfs_equal.Rd
DTHCAUS is added from AE and DS	man/expect_dfs_equal.Rd
TRTSDTM variable is added	man/expect_dfs_equal.Rd
‘target’ is set to ‘Y’ when ‘start_date’ >= ‘ref_start_date’ and ‘start_date’ <= ‘ref_end_date’ and no ‘ref_end_window’ is specified, otherwise NA	man/expect_dfs_equal.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
'target' is set to 'Y' when 'filter_pre_timepoint' is not 'PRE' and 'start_date' = 'ref_start_date' and 'ref_end_date' is not specified	man/expect_dfs_equal.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/expect_dfs_equal.Rd
'target' is set to NA when 'end_date' < 'ref_start_date' regardless of start_date being NA	man/expect_dfs_equal.Rd
'target' is set to Y when 'start_date' is before 'ref_start_date' and 'end_date' is before 'ref_end_date' for Period 01	man/expect_dfs_equal.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' + 'ref_end_window'	man/expect_dfs_equal.Rd
derive_var_last_dose_amt returns traceability vars	man/expect_dfs_equal.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/expect_dfs_equal.Rd
TRTEDTM variable is added	man/expect_dfs_equal.Rd
derive_var_last_dose works as expected	man/expect_dfs_equal.Rd
derive_var_last_dose_date returns traceability vars	man/expect_dfs_equal.Rd
Derive DCSREAS using default mapping	man/expect_dfs_equal.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'ref_end_date' and 'filter_pre_timepoint' are not specified	man/expect_dfs_equal.Rd
derive_var_last_dose works as expected with dates only	man/expect_dfs_equal.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'ref_end_date' and 'filter_pre_timepoint' are not specified	man/expect_dfs_equal.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/expect_dfs_equal.Rd
derive_var_last_dose_amt works as expected	man/expect_dfs_equal.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/expect_dfs_equal.Rd
'target' is set to NA when 'start_date' < 'ref_start_date'	man/expect_dfs_equal.Rd
derive_last_dose_date works as expected	man/expect_dfs_equal.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/expect_dfs_equal.Rd
Derive worst flag works correctly	man/expect_dfs_equal.Rd
Test domain paramter	man/expect_dfs_equal.Rd
expect_dfs_equal works	man/expect_dfs_equal.Rd
'target' is set to 'Y' when 'filter_pre_timepoint' is not 'PRE' and 'start_date' = 'ref_start_date' and 'ref_end_date' is not specified	man/expect_dfs_equal.Rd
'target' is set to 'Y' when 'start_date' is NA	man/expect_dfs_equal.Rd
filtering the merge dataset works	man/expect_dfs_equal.Rd
ATC variables are merged properly	man/expect_dfs_equal.Rd
'target' is set to NA when 'ref_start_date' is NA	man/expect_dfs_equal.Rd
the merge dataset is transposed and merged correctly	man/expect_dfs_equal.Rd
input is returned as is if filter is NULL	man/expect_dfs_equal.Rd
ABLFL = Y average records within a subset	man/expect_dfs_equal.Rd
Derive worst flag works correctly with no worst_high option	man/expect_dfs_equal.Rd
Multiple IDVARs, differing types	man/expect_dfs_equal.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Multiple Records for each IDVAR	man/expect_dfs_equal.Rd
IDVAR is missing, join by USUBJID	man/expect_dfs_equal.Rd
an error is issued set_values_to contains invalid expressions	man/extend_source_datasets.Rd
an error is issued all by variables are missing in all source datasets	man/extend_source_datasets.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/extend_source_datasets.Rd
an error is issued if some of the by variables are missing	man/extend_source_datasets.Rd
by_vars parameter works correctly	man/extend_source_datasets.Rd
new observations are derived correctly with Boyd method	man/extract_duplicate_records.Rd
new observations are derived correctly with Fujimoto method	man/extract_duplicate_records.Rd
new observations are derived correctly with Haycock method	man/extract_duplicate_records.Rd
assert_valid_queries checks VAR_PREFIX values	man/extract_duplicate_records.Rd
‘target‘ is set to ‘source‘ where ‘ABLFL == ’Y’	man/extract_duplicate_records.Rd
a warning is issued when using ‘derive_extreme_flag()‘	man/extract_duplicate_records.Rd
first observation for each group are selected	man/extract_duplicate_records.Rd
Derive decides between TERM_NAME and TERM_ID based on the type of the variable	man/extract_duplicate_records.Rd
Derive RFICDT	man/extract_duplicate_records.Rd
a warning is issued when using ‘derive_disposition_status()‘	man/extract_duplicate_records.Rd
DTHCAUS is added from AE and DS	man/extract_duplicate_records.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/extract_duplicate_records.Rd
new observations are derived correctly when zero_doses is Y	man/extract_duplicate_records.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/extract_duplicate_records.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/extract_duplicate_records.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/extract_duplicate_records.Rd
new observations are derived correctly	man/extract_duplicate_records.Rd
only the ‘target‘ variable is added to the input dataset	man/extract_duplicate_records.Rd
Derive EOTSTT using a study specific mapping	man/extract_duplicate_records.Rd
‘dthcaus‘ handles symbols and string literals correctly	man/extract_duplicate_records.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/extract_duplicate_records.Rd
An error is thrown if a subject has multiple records per ‘PARAMCD‘ and ‘BASETYPE‘	man/extract_duplicate_records.Rd
a warning is issued when using ‘derive_disposition_dt()‘	man/extract_duplicate_records.Rd
a warning is issued when specifying	man/extract_duplicate_records.Rd
‘derive_var_extreme_flag(flag_filter =)‘	man/extract_duplicate_records.Rd
dataset of duplicate records can be accessed using	man/extract_duplicate_records.Rd
‘get_duplicates_dataset()‘	man/extract_duplicate_records.Rd
a warning is issued when using ‘derive_query_vars()‘	man/extract_duplicate_records.Rd
‘target‘ is set to ‘NA‘ if a baseline record is missing	man/extract_duplicate_records.Rd
new observations are derived correctly when zero_doses is NULL	man/extract_duplicate_records.Rd
DTHCAUS and traceability variables are added from AE and DS	man/extract_duplicate_records.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
BMI parameter is correctly added to input dataset	man/extract_duplicate_records.Rd
Derive EOSSTT using default mapping	man/extract_duplicate_records.Rd
derive_vars_last_dose works as expected	man/extract_duplicate_records.Rd
derive_vars_last_dose returns traceability vars	man/extract_duplicate_records.Rd
Derive when dataset does not have a unique key when excluding 'TERM_LEVEL' columns	man/extract_duplicate_records.Rd
Derive when an adverse event is in multiple baskets	man/extract_duplicate_records.Rd
new observations are derived correctly with Takahira method	man/extract_duplicate_records.Rd
a warning is issued when using 'derive_var_basec()	man/extract_duplicate_records.Rd
new observations are derived correctly with Gehan & George method	man/extract_duplicate_records.Rd
new observations are derived correctly with constant parameters	man/extract_duplicate_records.Rd
first observation for each group is flagged	man/extract_duplicate_records.Rd
last observation for each group is flagged, filter works	man/extract_duplicate_records.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/extract_duplicate_records.Rd
a warning is issued when using 'derive_disposition_reason()'	man/extract_duplicate_records.Rd
a warning is issued when using 'derive_baseline()'	man/extract_duplicate_records.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/extract_duplicate_records.Rd
Derive when query dataset does not have QUERY_ID or QUERY_SCOPE column	man/extract_duplicate_records.Rd
derive_vars_last_dose when multiple doses on same date - error	man/extract_duplicate_records.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/extract_duplicate_records.Rd
new observations are derived correctly with Mosteller method	man/extract_duplicate_records.Rd
new observations are derived correctly with DuBois & DuBois method	man/extract_duplicate_records.Rd
Derive DCSREAS using default mapping	man/extract_duplicate_records.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/extract_duplicate_records.Rd
Derive CQ and SMQ variables with two term levels	man/extract_duplicate_records.Rd
new observations with analysis date are derived correctly	man/extract_duplicate_records.Rd
an error if issued set_values_to contains invalid expressions	man/extract_duplicate_records.Rd
derive_var_last_dose_amt returns traceability vars	man/extract_duplicate_records.Rd
first observation is selected without grouping	man/extract_duplicate_records.Rd
TRTSDTM variable is added	man/extract_duplicate_records.Rd
TRTEDTM variable is added	man/extract_duplicate_records.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/extract_duplicate_records.Rd
by_vars parameter works correctly	man/extract_duplicate_records.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/extract_duplicate_records.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/extract_duplicate_records.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/extract_duplicate_records.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/extract_duplicate_records.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/extract_duplicate_records.Rd
derive_var_last_dose_date returns traceability vars	man/extract_duplicate_records.Rd
duplicate records are extracted	man/extract_duplicate_records.Rd
ABLFL = Y using last observation within a subset	man/extract_duplicate_records.Rd
new observations with analysis datetime are derived correctly	man/extract_duplicate_records.Rd
Derive worst flag works correctly with no worst_high option	man/extract_duplicate_records.Rd
derive_var_last_dose_amt works as expected	man/extract_duplicate_records.Rd
Derive worst flag works correctly	man/extract_duplicate_records.Rd
new observations based on DTC variables are derived correctly	man/extract_duplicate_records.Rd
derive_last_dose_date works as expected	man/extract_duplicate_records.Rd
ABLFL = Y average records within a subset	man/extract_duplicate_records.Rd
ABLFL = Y worst observation = HI within a subset	man/extract_duplicate_records.Rd
ABLFL = Y worst observation = LO within a subset	man/extract_duplicate_records.Rd
duplicate records are extracted	man/extract_duplicate_records.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/extract_unit.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/extract_unit.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/filter_date_sources.Rd
new observations with analysis datetime are derived correctly	man/filter_date_sources.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/filter_date_sources.Rd
new observations with analysis date are derived correctly	man/filter_date_sources.Rd
by_vars parameter works correctly	man/filter_date_sources.Rd
new observations based on DTC variables are derived correctly	man/filter_date_sources.Rd
an error if issued set_values_to contains invalid expressions	man/filter_date_sources.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/filter_extreme.Rd
‘dthcaus‘ handles symbols and string literals correctly	man/filter_extreme.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/filter_extreme.Rd
by_vars parameter works correctly	man/filter_extreme.Rd
an error if issued set_values_to contains invalid expressions	man/filter_extreme.Rd
new observations with analysis date are derived correctly	man/filter_extreme.Rd
DTHCAUS and traceability variables are added from AE and DS	man/filter_extreme.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/filter_extreme.Rd
first observation for each group are selected	man/filter_extreme.Rd
derive_vars_last_dose works as expected	man/filter_extreme.Rd
new observations based on DTC variables are derived correctly	man/filter_extreme.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/filter_extreme.Rd
derive_var_last_dose_date returns traceability vars	man/filter_extreme.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. (*continued*)

Test Description	Documentation
new observations with analysis datetime are derived correctly	man/filter_extreme.Rd
TRTSDTM variable is added	man/filter_extreme.Rd
DTHCAUS is added from AE and DS	man/filter_extreme.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/filter_extreme.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/filter_extreme.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/filter_extreme.Rd
derive_var_last_dose_amt returns traceability vars	man/filter_extreme.Rd
LSTALVDT and traceability variables are derived	man/filter_extreme.Rd
LSTALVDT is derived for Date class as well	man/filter_extreme.Rd
first observation is selected without grouping	man/filter_extreme.Rd
LSTALVDT is derived	man/filter_extreme.Rd
derive_last_dose_date works as expected	man/filter_extreme.Rd
derive_var_last_dose_amt works as expected	man/filter_extreme.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/filter_extreme.Rd
derive_vars_last_dose returns traceability vars	man/filter_extreme.Rd
TRTEDTM variable is added	man/filter_extreme.Rd
first observation for each group are selected	man/filter_extreme.Rd
first observation is selected without grouping	man/filter_extreme.Rd
new observations are derived correctly with Gehan & George method	man/filter_if.Rd
new observations are derived correctly with Mosteller method	man/filter_if.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/filter_if.Rd
a warning is issued when using 'derive_params_exposure()' ATC variables are merged properly	man/filter_if.Rd
input is returned as is if filter is NULL	man/filter_if.Rd
new observations are derived correctly with Haycock method	man/filter_if.Rd
new observations are derived correctly with DuBois & DuBois method	man/filter_if.Rd
the merge dataset is transposed and merged correctly	man/filter_if.Rd
new observations are derived correctly with Takahira method	man/filter_if.Rd
filtering the merge dataset works	man/filter_if.Rd
a warning is issued when using 'derive_last_dose()'	man/filter_if.Rd
derive_var_last_dose works as expected	man/filter_if.Rd
BMI parameter is correctly added to input dataset	man/filter_if.Rd
no new observations are added if filtered dataset is empty	man/filter_if.Rd
TRTSDTM variable is added	man/filter_if.Rd
new observations are derived correctly with constant parameters	man/filter_if.Rd
TRTEDTM variable is added	man/filter_if.Rd
input is filtered if filter is not NULL	man/filter_if.Rd
new observations with analysis datetime are derived correctly	man/filter_if.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/filter_if.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
new observations are derived correctly	man/filter_if.Rd
new observations are derived correctly with Fujimoto method	man/filter_if.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/filter_if.Rd
derive_vars_last_dose returns traceability vars	man/filter_if.Rd
new observations are derived correctly when zero_doses is Y	man/filter_if.Rd
no new observations are added if a parameter is missing	man/filter_if.Rd
new observations are derived correctly with Boyd method	man/filter_if.Rd
derive_vars_last_dose works as expected	man/filter_if.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/filter_if.Rd
LSTALVDT is derived	man/filter_if.Rd
an error is issued set_values_to contains invalid expressions	man/filter_if.Rd
new observations with analysis date are derived correctly	man/filter_if.Rd
new observations based on DTC variables are derived correctly	man/filter_if.Rd
LSTALVDT is derived for Date class as well	man/filter_if.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/filter_if.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/filter_if.Rd
derive_var_last_dose_date returns traceability vars	man/filter_if.Rd
LSTALVDT and traceability variables are derived	man/filter_if.Rd
derive_var_last_dose returns traceability vars	man/filter_if.Rd
new observations are derived correctly when zero_doses is NULL	man/filter_if.Rd
derive_var_last_dose_amt returns traceability vars	man/filter_if.Rd
new observations are derived correctly for AVAL	man/filter_if.Rd
derive_var_last_dose works as expected with dates only	man/filter_if.Rd
derive_last_dose_date works as expected	man/filter_if.Rd
by_vars parameter works correctly	man/filter_if.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/filter_if.Rd
derive_var_last_dose_amt works as expected	man/filter_if.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/filter_if.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/filter_if.Rd
a warning is issued when using 'derive_disposition_status()' Derive EOSSTT using default mapping	man/format_eoxxstt_default.Rd
Derive DCSREAS using default mapping	man/format_reason_default.Rd
a warning is issued when using 'derive_disposition_reason()' dataset of duplicate records can be accessed using 'get_duplicates_dataset()'	man/format_reason_default.Rd man/get_duplicates_dataset.Rd
min_dates parameter works	man/impute_dtc.Rd
derive_var_last_dose works as expected	man/impute_dtc.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/impute_dtc.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Partial date imputed to the last day/month, no DTF	man/impute_dtc.Rd
Partial date imputed to the mid day/month	man/impute_dtc.Rd
impute to first day/month if date is partial,Missing time part imputed with 00:00:00 portion	man/impute_dtc.Rd
impute to MID day/month if date is partial,Missing time part imputed with 00:00:00 portion	man/impute_dtc.Rd
TRTEDTM variable is added	man/impute_dtc.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/impute_dtc.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/impute_dtc.Rd
derive_var_last_dose_date returns traceability vars	man/impute_dtc.Rd
derive_last_dose_date works as expected	man/impute_dtc.Rd
impute to last day/month if date is partial,Missing time part imputed with 23:59:59 portion	man/impute_dtc.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/impute_dtc.Rd
Partial date imputed to the first day/month	man/impute_dtc.Rd
default: no date imputation,Missing time part imputed with 23:59:59 portion	man/impute_dtc.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/impute_dtc.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/impute_dtc.Rd
Partial date imputed to the last day/month	man/impute_dtc.Rd
LSTALVDT is derived	man/impute_dtc.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/impute_dtc.Rd
derive_var_last_dose works as expected with dates only	man/impute_dtc.Rd
default: no date imputation, time part set o 00:00:00	man/impute_dtc.Rd
max_dates parameter works	man/impute_dtc.Rd
default: no date imputation,Missing time part imputed with 23:59:59 portion	man/impute_dtc.Rd
TRTSDTM variable is added	man/impute_dtc.Rd
derive_var_last_dose_amt returns traceability vars	man/impute_dtc.Rd
derive_var_last_dose returns traceability vars	man/impute_dtc.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/impute_dtc.Rd
LSTALVDT and traceability variables are derived	man/impute_dtc.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/impute_dtc.Rd
call_derivation works	man/impute_dtc.Rd
derive_vars_last_dose returns traceability vars	man/impute_dtc.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/impute_dtc.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/impute_dtc.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
No re-derivation is done if <code>-DTF</code> variable already exists	man/impute_dtc.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/impute_dtc.Rd
an error is issued if <code>set_values</code> contains invalid expressions	man/impute_dtc.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/impute_dtc.Rd
impute to first day/month if date is partial, Missing time part imputed with 00:00:00 portion	man/impute_dtc.Rd
<code>derive_vars_last_dose</code> works as expected	man/impute_dtc.Rd
new observations based on DTC variables are derived correctly	man/impute_dtc.Rd
<code>by_vars</code> parameter works correctly	man/impute_dtc.Rd
Derive RFICDT	man/impute_dtc.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/impute_dtc.Rd
<code>derive_var_last_dose_amt</code> works as expected	man/impute_dtc.Rd
Ignore Seconds Flag is not used when not present in the function call	man/impute_dtc.Rd
Convert <code>-DT</code> into a date time object	man/impute_dtc.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/impute_dtc.Rd
Convert a complete <code>-DTC</code> into a date time object	man/impute_dtc.Rd
impute to MID day/month if date is partial, Missing time part imputed with 00:00:00 portion	man/impute_dtc.Rd
a warning is issued when using <code>'derive_disposition_dt()'</code>	man/impute_dtc.Rd
impute to last day/month if date is partial, Missing time part imputed with 23:59:59 portion	man/impute_dtc.Rd
default: no date imputation, time part set to 00:00:00	man/impute_dtc.Rd
a warning is issued when using <code>'derive_last_dose()'</code>	man/impute_dtc.Rd
Convert a complete <code>-DTC</code> into a date object	man/impute_dtc.Rd
<code>min_dates</code> parameter works	man/impute_dtc.Rd
Impute incomplete <code>-DTC</code> into a date time object	man/impute_dtc.Rd
<code>max_dates</code> parameter works	man/impute_dtc.Rd
package templates can be used	man/list_all_templates.Rd
all templates are listed	man/list_all_templates.Rd
LSTALVDT is derived	man/lstalvdt_source.Rd
a warning is issued when specifying <code>'lstalvdt_source(date_var =)'</code>	man/lstalvdt_source.Rd
LSTALVDT and traceability variables are derived	man/lstalvdt_source.Rd
a warning is issued when specifying <code>'lstalvdt_source(dataset =)'</code>	man/lstalvdt_source.Rd
LSTALVDT and traceability variables are derived	man/lstalvdt_source.Rd
LSTALVDT is derived for Date class as well	man/lstalvdt_source.Rd
a warning is issued when specifying <code>'lstalvdt_source(date_var =)'</code>	man/lstalvdt_source.Rd
LSTALVDT is derived	man/lstalvdt_source.Rd
a warning is issued when specifying <code>'lstalvdt_source(dataset =)'</code>	man/lstalvdt_source.Rd
LSTALVDT is derived for Date class as well	man/lstalvdt_source.Rd
<code>negate_vars</code> returns NULL if input is NULL	man/negate_vars.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
negate_vars returns NULL if input is NULL	man/negate_vars.Rd
negate_vars returns list of negated variables	man/negate_vars.Rd
by_vars parameter works correctly	man/negate_vars.Rd
negate_vars returns list of negated variables	man/negate_vars.Rd
call_derivation works	man/params.Rd
assert_valid_queries checks VAR_PREFIX values	man/signal_duplicate_records.Rd
dataset of duplicate records can be accessed using 'get_duplicates_dataset()'	man/signal_duplicate_records.Rd
derive_vars_last_dose works as expected	man/signal_duplicate_records.Rd
derive_var_last_dose_amt returns traceability vars	man/signal_duplicate_records.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/signal_duplicate_records.Rd
new observations are derived correctly when zero_doses is NULL	man/signal_duplicate_records.Rd
first observation for each group are selected	man/signal_duplicate_records.Rd
derive_var_last_dose_date returns traceability vars	man/signal_duplicate_records.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/signal_duplicate_records.Rd
derive_vars_last_dose when multiple doses on same date - error	man/signal_duplicate_records.Rd
Derive DCSREAS using default mapping	man/signal_duplicate_records.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/signal_duplicate_records.Rd
DTHCAUS is added from AE and DS	man/signal_duplicate_records.Rd
a warning is issued when using 'derive_disposition_status()'	man/signal_duplicate_records.Rd
new observations are derived correctly when zero_doses is Y	man/signal_duplicate_records.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/signal_duplicate_records.Rd
derive_vars_last_dose returns traceability vars	man/signal_duplicate_records.Rd
new observations are derived correctly with Fujimoto method	man/signal_duplicate_records.Rd
new observations are derived correctly with Gehan & George method	man/signal_duplicate_records.Rd
derive_last_dose_date works as expected	man/signal_duplicate_records.Rd
first observation is selected without grouping	man/signal_duplicate_records.Rd
An error is thrown if a subject has multiple records per 'PARAMCD' and 'BASETYPE'	man/signal_duplicate_records.Rd
a warning is issued when using 'derive_extreme_flag()'	man/signal_duplicate_records.Rd
'target' is set to 'NA' if a baseline record is missing	man/signal_duplicate_records.Rd
TRTSDTM variable is added	man/signal_duplicate_records.Rd
Derive decides between TERM_NAME and TERM_ID based on the type of the variable	man/signal_duplicate_records.Rd
Derive when query dataset does not have QUERY_ID or QUERY_SCOPE column	man/signal_duplicate_records.Rd
new observations are derived correctly with Takahira method	man/signal_duplicate_records.Rd
new observations are derived correctly with DuBois & DuBois method	man/signal_duplicate_records.Rd
new observations are derived correctly with Boyd method	man/signal_duplicate_records.Rd
derive_var_last_dose_amt works as expected	man/signal_duplicate_records.Rd
new observations are derived correctly with Mosteller method	man/signal_duplicate_records.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
derive_var_last_dose_date works as expected output_datetime = FALSE	man/signal_duplicate_records.Rd
by_vars parameter works correctly	man/signal_duplicate_records.Rd
Derive CQ and SMQ variables with two term levels	man/signal_duplicate_records.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/signal_duplicate_records.Rd
new observations are derived correctly with Haycock method	man/signal_duplicate_records.Rd
BMI parameter is correctly added to input dataset	man/signal_duplicate_records.Rd
Derive EOTSTT using a study specific mapping	man/signal_duplicate_records.Rd
new observations are derived correctly	man/signal_duplicate_records.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/signal_duplicate_records.Rd
Derive EOSSTT using default mapping	man/signal_duplicate_records.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/signal_duplicate_records.Rd
a warning is issued when using 'derive_disposition_dt()'	man/signal_duplicate_records.Rd
Derive when dataset does not have a unique key when excluding 'TERM_LEVEL' columns	man/signal_duplicate_records.Rd
new observations with analysis datetime are derived correctly	man/signal_duplicate_records.Rd
Derive when an adverse event is in multiple baskets	man/signal_duplicate_records.Rd
only the 'target' variable is added to the input dataset	man/signal_duplicate_records.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/signal_duplicate_records.Rd
TRTEDTM variable is added	man/signal_duplicate_records.Rd
'dthcaus' handles symbols and string literals correctly	man/signal_duplicate_records.Rd
ABLFL = Y worst observation = LO within a subset	man/signal_duplicate_records.Rd
an error is issued set_values_to contains invalid expressions	man/signal_duplicate_records.Rd
Derive worst flag works correctly	man/signal_duplicate_records.Rd
Derive worst flag works correctly with no worst_high option	man/signal_duplicate_records.Rd
new observations based on DTC variables are derived correctly	man/signal_duplicate_records.Rd
DTHCAUS and traceability variables are added from AE and DS	man/signal_duplicate_records.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/signal_duplicate_records.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/signal_duplicate_records.Rd
ABLFL = Y worst observation = HI within a subset	man/signal_duplicate_records.Rd
a warning is issued when using 'derive_disposition_reason()'	man/signal_duplicate_records.Rd
ABLFL = Y average records within a subset	man/signal_duplicate_records.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/signal_duplicate_records.Rd
new observations are derived correctly with constant parameters	man/signal_duplicate_records.Rd
Derive RFICDT	man/signal_duplicate_records.Rd
ABLFL = Y using last observation within a subset	man/signal_duplicate_records.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/signal_duplicate_records.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/signal_duplicate_records.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
first observation for each group is flagged	man/signal_duplicate_records.Rd
last observation for each group is flagged, filter works	man/signal_duplicate_records.Rd
‘target‘ is set to ‘source‘ where ‘ABLFL == ‘Y‘	man/signal_duplicate_records.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/signal_duplicate_records.Rd
a warning is issued when using ‘derive_baseline()’	man/signal_duplicate_records.Rd
a warning is issued when specifying ‘derive_var_extreme_flag(flag_filter =)’	man/signal_duplicate_records.Rd
new observations with analysis date are derived correctly	man/signal_duplicate_records.Rd
a warning is issued when using ‘derive_var_basec()’	man/signal_duplicate_records.Rd
dataset of duplicate records can be accessed using ‘get_duplicates_dataset()’	man/signal_duplicate_records.Rd
a warning is issued when using ‘derive_query_vars()’	man/signal_duplicate_records.Rd
derive_last_dose_date works as expected	man/suppress_warning.Rd
new observations are derived correctly with Boyd method	man/suppress_warning.Rd
new observations are derived correctly with Gehan & George method	man/suppress_warning.Rd
new observations are derived correctly with constant parameters	man/suppress_warning.Rd
new observations are derived correctly with DuBois & DuBois method	man/suppress_warning.Rd
a warning is issued when using ‘derive_params_exposure()’	man/suppress_warning.Rd
a warning is issued when using ‘derive_disposition_reason()’	man/suppress_warning.Rd
new observations with analysis datetime are derived correctly	man/suppress_warning.Rd
derive_var_last_dose_date returns traceability vars	man/suppress_warning.Rd
IDVAR is missing, join by USUBJID	man/suppress_warning.Rd
derive_vars_last_dose returns traceability vars	man/suppress_warning.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/suppress_warning.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/suppress_warning.Rd
LSTALVDT is derived for Date class as well	man/suppress_warning.Rd
TRTEDTM variable is added	man/suppress_warning.Rd
derive_vars_last_dose works as expected	man/suppress_warning.Rd
new observations with analysis date are derived correctly	man/suppress_warning.Rd
new observations are derived correctly with Mosteller method	man/suppress_warning.Rd
DTHCAUS and traceability variables are added from AE and DS	man/suppress_warning.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/suppress_warning.Rd
a warning is issued when using ‘derive_disposition_status()’	man/suppress_warning.Rd
Derive DCSREAS using default mapping	man/suppress_warning.Rd
new observations are derived correctly with Haycock method	man/suppress_warning.Rd
new observations are derived correctly when zero_doses is NULL	man/suppress_warning.Rd
derive_var_last_dose returns traceability vars	man/suppress_warning.Rd
new observations are derived correctly when zero_doses is Y	man/suppress_warning.Rd
new observations are derived correctly for AVAL	man/suppress_warning.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/suppress_warning.Rd
TRTSDTM variable is added	man/suppress_warning.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. (*continued*)

Test Description	Documentation
Derive when an adverse event is in multiple baskets	man/suppress_warning.Rd
a warning is issued when using ‘derive_last_dose()’	man/suppress_warning.Rd
new observations are derived correctly	man/suppress_warning.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/suppress_warning.Rd
new observations based on DTC variables are derived correctly	man/suppress_warning.Rd
new observations are derived correctly with Fujimoto method	man/suppress_warning.Rd
derive_var_last_dose works as expected	man/suppress_warning.Rd
derive_var_last_dose_amt returns traceability vars	man/suppress_warning.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/suppress_warning.Rd
LSTALVDT and traceability variables are derived	man/suppress_warning.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/suppress_warning.Rd
an error is issued set_values_to contains invalid expressions	man/suppress_warning.Rd
Derive when dataset does not have a unique key when excluding ‘TERM_LEVEL’ columns	man/suppress_warning.Rd
Derive CQ and SMQ variables with two term levels	man/suppress_warning.Rd
Multiple IDVARs, differing types	man/suppress_warning.Rd
Derive when query dataset does not have QUERY_ID or QUERY_SCOPE column	man/suppress_warning.Rd
Derive RFICDT	man/suppress_warning.Rd
Derive EOSSTT using default mapping	man/suppress_warning.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/suppress_warning.Rd
derive_var_last_dose_amt works as expected	man/suppress_warning.Rd
new observations are derived correctly with Takahira method	man/suppress_warning.Rd
LSTALVDT is derived	man/suppress_warning.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/suppress_warning.Rd
a warning is issued when using ‘derive_var_basec()’	man/suppress_warning.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/suppress_warning.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/suppress_warning.Rd
error is issued if parameter code already exists	man/suppress_warning.Rd
a warning is issued when using ‘derive_query_vars()’	man/suppress_warning.Rd
‘target’ is set to ‘NA’ if a baseline record is missing	man/suppress_warning.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/suppress_warning.Rd
only the ‘target’ variable is added to the input dataset	man/suppress_warning.Rd
‘target’ is set to ‘source’ where ‘ABLFL == ’Y’	man/suppress_warning.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/suppress_warning.Rd
the merge dataset is transposed and merged correctly	man/suppress_warning.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/suppress_warning.Rd
a warning is issued when using ‘derive_baseline()’	man/suppress_warning.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
ATC variables are merged properly	man/suppress_warning.Rd
DTHCAUS is added from AE and DS	man/suppress_warning.Rd
filtering the merge dataset works	man/suppress_warning.Rd
Derive decides between TERM_NAME and TERM_ID based on the type of the variable	man/suppress_warning.Rd
Test domain paramter	man/suppress_warning.Rd
Multiple Records for each IDVAR	man/suppress_warning.Rd
derive_var_last_dose works as expected with dates only	man/suppress_warning.Rd
‘dthcaus’ handles symbols and string literals correctly	man/suppress_warning.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/suppress_warning.Rd
call_derivation works	man/suppress_warning.Rd
by_vars parameter works correctly	man/suppress_warning.Rd
a warning is issued when using ‘derive_disposition_dt()’	man/suppress_warning.Rd
a warning is issued when using ‘derive_suppqual_vars()’	man/suppress_warning.Rd
Derive EOTSTT using a study specific mapping	man/suppress_warning.Rd
package templates can be used	man/use_ad_template.Rd
package templates can be used	man/use_ad_template.Rd
the merge dataset is transposed and merged correctly	man/vars2chr.Rd
Partial date imputed to the mid day/month	man/vars2chr.Rd
new observations are derived correctly when zero_doses is NULL	man/vars2chr.Rd
Partial date imputed to the last day/month	man/vars2chr.Rd
assert_valid_queries checks VAR_PREFIX values	man/vars2chr.Rd
Filter record within ‘by_vars’	man/vars2chr.Rd
Errors	man/vars2chr.Rd
dataset of duplicate records can be accessed using ‘get_duplicates_dataset()’	man/vars2chr.Rd
first observation for each group are selected	man/vars2chr.Rd
call_derivation works	man/vars2chr.Rd
first observation is selected without grouping	man/vars2chr.Rd
check ‘set_values_to’ mapping	man/vars2chr.Rd
a warning is issued when using ‘derive_query_vars()’	man/vars2chr.Rd
filtering the merge dataset works	man/vars2chr.Rd
ATC variables are merged properly	man/vars2chr.Rd
one-sided reference ranges work	man/vars2chr.Rd
derive_vars_last_dose returns traceability vars	man/vars2chr.Rd
derive_vars_last_dose when multiple doses on same date - error	man/vars2chr.Rd
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/vars2chr.Rd
IDVAR is missing, join by USUBJID	man/vars2chr.Rd
Multiple IDVARs, differing types	man/vars2chr.Rd
Multiple Records for each IDVAR	man/vars2chr.Rd
Test domain paramter	man/vars2chr.Rd
duration and unit variable are added	man/vars2chr.Rd
BMI parameter is correctly added to input dataset	man/vars2chr.Rd
new observations are derived correctly with Mosteller method	man/vars2chr.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. (*continued*)

Test Description	Documentation
new observations are derived correctly with DuBois & DuBois method	man/vars2chr.Rd
new observations are derived correctly with Haycock method	man/vars2chr.Rd
new observations are derived correctly with Gehan & George method	man/vars2chr.Rd
new observations are derived correctly with Boyd method	man/vars2chr.Rd
new observations are derived correctly with Fujimoto method	man/vars2chr.Rd
new observations are derived correctly with Takahira method	man/vars2chr.Rd
an error is issued if an invalid method is specified	man/vars2chr.Rd
new observations are derived correctly whenever HEIGHT and WEIGHT are available regardless of visit	man/vars2chr.Rd
new observations are derived correctly when zero_doses is Y	man/vars2chr.Rd
new observations are derived correctly for AVAL	man/vars2chr.Rd
new observations for MAP based on DIABP and SYSBP are derived correctly	man/vars2chr.Rd
new observations for MAP based on DIABP, SYSBP, and HR are derived correctly	man/vars2chr.Rd
an error is issued if PARAMCD is not set	man/vars2chr.Rd
new observations are derived correctly	man/vars2chr.Rd
new observations with analysis date are derived correctly	man/vars2chr.Rd
new observations with analysis datetime are derived correctly	man/vars2chr.Rd
new observations based on DTC variables are derived correctly	man/vars2chr.Rd
by_vars parameter works correctly	man/vars2chr.Rd
an error is issued if some of the by variables are missing	man/vars2chr.Rd
an error is issued all by variables are missing in all source datasets	man/vars2chr.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/vars2chr.Rd
an error if issued set_values_to contains invalid expressions	man/vars2chr.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/vars2chr.Rd
error is issued if parameter code already exists	man/vars2chr.Rd
Derive CQ and SMQ variables with two term levels	man/vars2chr.Rd
Derive when dataset does not have a unique key when excluding 'TERM_LEVEL' columns	man/vars2chr.Rd
Derive when an adverse event is in multiple baskets	man/vars2chr.Rd
Derive when query dataset does not have QUERY_ID or QUERY_SCOPE column	man/vars2chr.Rd
Derive decides between TERM_NAME and TERM_ID based on the type of the variable	man/vars2chr.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/vars2chr.Rd
first observation for each group is flagged	man/vars2chr.Rd
last observation for each group is flagged, filter works	man/vars2chr.Rd
creates a new record for each group and new data frame retains grouping	man/vars2chr.Rd
'fns' as inlined	man/vars2chr.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
set new value to a derived record	man/vars2chr.Rd
Partial date imputed to the first day/month	man/vars2chr.Rd
a warning is issued when specifying 'derive_var_extreme_flag(flag_filter =)'	man/vars2chr.Rd
ADY is added	man/vars2chr.Rd
AENDY is added	man/vars2chr.Rd
two-sided reference ranges work	man/vars2chr.Rd
implicitly missing extreme ranges are supported	man/vars2chr.Rd
explicitly missing extreme ranges are supported	man/vars2chr.Rd
a warning is issued when using 'derive_baseline()'	man/vars2chr.Rd
missing 'AVAL' is handled properly	man/vars2chr.Rd
ASTDY is added	man/vars2chr.Rd
Derive ATIREL	man/vars2chr.Rd
'target' is set to 'source' where 'ABLFL == 'Y''	man/vars2chr.Rd
'target' is set to 'NA' if a baseline record is missing	man/vars2chr.Rd
only the 'target' variable is added to the input dataset	man/vars2chr.Rd
An error is thrown if a subject has multiple records per 'PARAMCD' and 'BASETYPE'	man/vars2chr.Rd
'CHG' is calculated as 'AVAL - BASE'	man/vars2chr.Rd
'PCHG' is calculated as '(AVAL - BASE) / abs(BASE) * 100'	man/vars2chr.Rd
'PCHG' is set to 'NA' if 'BASE == 0'	man/vars2chr.Rd
Derive RFICDT	man/vars2chr.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/vars2chr.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/vars2chr.Rd
Derive EOSSTT using default mapping	man/vars2chr.Rd
Derive EOTSTT using a study specific mapping	man/vars2chr.Rd
DTHCAUS is added from AE and DS	man/vars2chr.Rd
'dthcaus' handles symbols and string literals correctly	man/vars2chr.Rd
DTHCAUS and traceability variables are added from AE and DS	man/vars2chr.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets	man/vars2chr.Rd
DTHCAUS/traceabiity are added from AE and DS, info available in 2 input datasets, partial dates	man/vars2chr.Rd
'target' is set to Y when 'end_date' is missing and 'start_date' is before 'ref_start_date' a la GSK	man/vars2chr.Rd
'target' is set to Y when 'start_date' is before 'ref_start_date' and 'end_date' is before 'ref_end_date' for Period 01	man/vars2chr.Rd
ABLFL = Y using last observation within a subset	man/vars2chr.Rd
ABLFL = Y worst observation = HI within a subset	man/vars2chr.Rd
ABLFL = Y worst observation = LO within a subset	man/vars2chr.Rd
ABLFL = Y average records within a subset	man/vars2chr.Rd
ABLFL = Y using last observation within a subset and multiple baselines possible	man/vars2chr.Rd
Derive worst flag works correctly	man/vars2chr.Rd
Derive worst flag works correctly with no worst_high option	man/vars2chr.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Derive worst flag catches invalid parameters	man/vars2chr.Rd
a warning is issued when using ‘derive_suppqual_vars()’	man/vars2chr.Rd
derive_var_last_dose_amt works as expected	man/vars2chr.Rd
a warning is issued when using ‘derive_duration()’	man/vars2chr.Rd
a warning is issued when using ‘derive_aage()’	man/vars2chr.Rd
a warning is issued when specifying ‘derive_var_ontrfl(date =)’	man/vars2chr.Rd
a warning is issued when specifying ‘derive_summary_records(filter_rows =)’	man/vars2chr.Rd
a warning is issued when using ‘derive_var_basec()’	man/vars2chr.Rd
Convert a complete – DTM into a date object	man/vars2chr.Rd
a warning is issued when using ‘derive_disposition_dt()’	man/vars2chr.Rd
a warning is issued when using ‘derive_disposition_status()’	man/vars2chr.Rd
a warning is issued when using ‘derive_extreme_flag()’	man/vars2chr.Rd
a warning is issued when using ‘derive_obs_number()’	man/vars2chr.Rd
a warning is issued when using ‘derive_last_dose()’	man/vars2chr.Rd
a warning is issued when using ‘derive_disposition_reason()’	man/vars2chr.Rd
a warning is issued when using ‘derive_params_exposure()’	man/vars2chr.Rd
derive_var_age_years works as expected	man/vars2chr.Rd
derive_agegr_fda works as expected	man/vars2chr.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/vars2chr.Rd
derive_agegr_ema works as expected	man/vars2chr.Rd
derive_agegr_ema - works as expected	man/vars2chr.Rd
derive_agegr_ema works with age_unit missing and multiple units in AGEU (adults)	man/vars2chr.Rd
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/vars2chr.Rd
new observations are derived correctly with constant parameters	man/vars2chr.Rd
no new observations are added if filtered dataset is empty	man/vars2chr.Rd
no new observations are added if a parameter is missing	man/vars2chr.Rd
‘target’ is set to NA when ‘end_date’ is missing and ‘start_date’ is before ‘ref_start_date’ a la Roche	man/vars2chr.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/vars2chr.Rd
derive_var_last_dose_amt returns traceability vars	man/vars2chr.Rd
TRTDURD is added	man/vars2chr.Rd
TRTEDTM variable is added	man/vars2chr.Rd
TRTSDTM variable is added	man/vars2chr.Rd
Derive DCSREAS using default mapping	man/vars2chr.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/vars2chr.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/vars2chr.Rd
LSTALVDT is derived	man/vars2chr.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/vars2chr.Rd
Partial date imputed to the last day/month, no DTF	man/vars2chr.Rd
derive_last_dose_date works as expected	man/vars2chr.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Convert a complete -DTM into -TM, TM out is HH:MM:SS default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/vars2chr.Rd man/vars2chr.Rd
derive_vars_last_dose checks validity of start and end dose inputs	man/vars2chr.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' + 'ref_end_window'	man/vars2chr.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/vars2chr.Rd
Ignore Seconds Flag is not used when not present in the function call	man/vars2chr.Rd
LSTALVDT and traceability variables are derived	man/vars2chr.Rd
No re-derivation is done if -DTF variable already exists	man/vars2chr.Rd
derive_vars_last_dose works as expected	man/vars2chr.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/vars2chr.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/vars2chr.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/vars2chr.Rd
'target' is set to 'Y' when 'end_date' > 'ref_start_date' when 'start_date' is missing	man/vars2chr.Rd
derive_var_last_dose checks validity of start and end dose inputs	man/vars2chr.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = FALSE)	man/vars2chr.Rd
'target' is set to NA when 'end_date' < 'ref_start_date' regardless of start_date being NA	man/vars2chr.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/vars2chr.Rd
derive_var_last_dose_date returns traceability vars	man/vars2chr.Rd
LSTALVDT is derived for Date class as well	man/vars2chr.Rd
derive_var_last_dose works as expected	man/vars2chr.Rd
derive_var_last_dose works as expected with dates only	man/vars2chr.Rd
'target' is set to 'Y' when 'filter_pre_timepoint' is not 'PRE' and 'start_date' = 'ref_start_date' and 'ref_end_date' is not specified	man/vars2chr.Rd
'target' is set to NA when 'ref_start_date' is NA	man/vars2chr.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/vars2chr.Rd
derive_var_last_dose returns traceability vars	man/vars2chr.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' and no 'ref_end_window' is specified, otherwise NA	man/vars2chr.Rd
'target' is set to 'Y' when 'start_date' is NA	man/vars2chr.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'ref_end_date' and 'filter_pre_timepoint' are not specified	man/vars2chr.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. (*continued*)

Test Description	Documentation
'target' is set to NA when 'start_date' < 'ref_start_date'	man/vars2chr.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/warn_if_inconsistent_list.Rd
LSTALVDT and traceability variables are derived	man/warn_if_inconsistent_list.Rd
LSTALVDT is derived	man/warn_if_inconsistent_list.Rd
DTHCAUS and traceability variables are added from AE and DS	man/warn_if_inconsistent_list.Rd
'dthcaus' handles symbols and string literals correctly	man/warn_if_inconsistent_list.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/warn_if_inconsistent_list.Rd
DTHCAUS is added from AE and DS	man/warn_if_inconsistent_list.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/warn_if_inconsistent_list.Rd
derive_var_last_dose_date returns traceability vars	man/warn_if_invalid_dtc.Rd
LSTALVDT and traceability variables are derived	man/warn_if_invalid_dtc.Rd
TRTEDTM variable is added	man/warn_if_invalid_dtc.Rd
max_dates parameter works	man/warn_if_invalid_dtc.Rd
LSTALVDT is derived	man/warn_if_invalid_dtc.Rd
Convert a complete - DTC into a date time object	man/warn_if_invalid_dtc.Rd
derive_var_last_dose checks validity of start and end dose inputs - time component (check_dates_only = TRUE)	man/warn_if_invalid_dtc.Rd
Partial date imputed to the first day/month	man/warn_if_invalid_dtc.Rd
Ignore Seconds Flag is not used when not present in the function call	man/warn_if_invalid_dtc.Rd
derive_last_dose_date works as expected	man/warn_if_invalid_dtc.Rd
min_dates parameter works	man/warn_if_invalid_dtc.Rd
Partial date imputed to the last day/month	man/warn_if_invalid_dtc.Rd
derive_var_last_dose works as expected with dates only	man/warn_if_invalid_dtc.Rd
derive_var_last_dose works as expected	man/warn_if_invalid_dtc.Rd
Convert - DT into a date time object	man/warn_if_invalid_dtc.Rd
Impute incomplete - DTC into a date time object	man/warn_if_invalid_dtc.Rd
derive_vars_last_dose works as expected	man/warn_if_invalid_dtc.Rd
derive_var_last_dose_date works as expected output_datetime = FALSE	man/warn_if_invalid_dtc.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/warn_if_invalid_dtc.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/warn_if_invalid_dtc.Rd
TRTSDTM variable is added	man/warn_if_invalid_dtc.Rd
by_vars parameter works correctly	man/warn_if_invalid_dtc.Rd
Convert a complete - DTC into a date object	man/warn_if_invalid_dtc.Rd
Partial date imputed to the mid day/month	man/warn_if_invalid_dtc.Rd
derive_var_last_dose_date works as expected with output_datetime = TRUE	man/warn_if_invalid_dtc.Rd
derive_var_last_dose_amt returns traceability vars	man/warn_if_invalid_dtc.Rd
derive_vars_last_dose returns traceability vars	man/warn_if_invalid_dtc.Rd
derive_var_last_dose returns traceability vars	man/warn_if_invalid_dtc.Rd
No re-derivation is done if -DTF variable already exists	man/warn_if_invalid_dtc.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
derive_vars_last_dose when multiple doses on same date - dose_id supplied	man/warn_if_invalid_dtc.Rd
an error is issued if there is no one to one mapping between PARAMCD and by_vars	man/warn_if_invalid_dtc.Rd
default: no date imputation, time part set o 00:00:00	man/warn_if_invalid_dtc.Rd
call_derivation works	man/warn_if_invalid_dtc.Rd
derive_var_last_dose_amt works as expected	man/warn_if_invalid_dtc.Rd
default: no date imputation,Missing time part imputed with 23:59:59 portion	man/warn_if_invalid_dtc.Rd
compute TMF	man/warn_if_invalid_dtc.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/warn_if_invalid_dtc.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/warn_if_invalid_dtc.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/warn_if_invalid_dtc.Rd
impute to first day/month if date is partial,Missing time part imputed with 00:00:00 portion	man/warn_if_invalid_dtc.Rd
compute DTF	man/warn_if_invalid_dtc.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/warn_if_invalid_dtc.Rd
new observations analysis datetime based on DTC variables are derived correctly	man/warn_if_invalid_dtc.Rd
an error if issued set_values_ to contains invalid expressions	man/warn_if_invalid_dtc.Rd
impute to MID day/month if date is partial,Missing time part imputed with 00:00:00 portion	man/warn_if_invalid_dtc.Rd
a warning is issued when using 'derive_last_dose()'	man/warn_if_invalid_dtc.Rd
new observations based on DTC variables are derived correctly	man/warn_if_invalid_dtc.Rd
Partial date imputed to the last day/month, no DTF	man/warn_if_invalid_dtc.Rd
impute to last day/month if date is partial,Missing time part imputed with 23:59:59 portion	man/warn_if_invalid_dtc.Rd
a warning is issued when using 'derive_disposition_dt()'	man/warn_if_invalid_dtc.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/warn_if_invalid_dtc.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/warn_if_invalid_dtc.Rd
Derive RFICDT	man/warn_if_invalid_dtc.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/warn_if_invalid_dtc.Rd
a warning is issued when using 'derive_disposition_dt()'	man/warn_if_vars_exist.Rd
LSTALVDT is derived for Date class as well	man/warn_if_vars_exist.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' and no 'ref_end_window' is specified, otherwise NA	man/warn_if_vars_exist.Rd
'target' is set to NA when 'start_date' < 'ref_start_date'	man/warn_if_vars_exist.Rd
default: no date imputation, time part set o 00:00:00, add DTF	man/warn_if_vars_exist.Rd
'target' is set to NA when 'ref_start_date' is NA	man/warn_if_vars_exist.Rd
Partial date imputed to the first day/month	man/warn_if_vars_exist.Rd
Derive RFICDT	man/warn_if_vars_exist.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
Partial date imputed to the mid day/month	man/warn_if_vars_exist.Rd
DTHCAUS is added from AE and DS if filter is not specified	man/warn_if_vars_exist.Rd
Derive DCTREAS, DCTREASP using a study specific mapping	man/warn_if_vars_exist.Rd
TRTDURD is added	man/warn_if_vars_exist.Rd
‘target‘ is set to Y when ‘start_date‘ is before ‘ref_start_date‘ and ‘end_date‘ is before ‘ref_end_date‘ for Period 01	man/warn_if_vars_exist.Rd
duration and unit variable are added	man/warn_if_vars_exist.Rd
‘target‘ is set to ‘Y‘ when ‘filter_pre_timepoint‘ is not ‘PRE‘ and ‘start_date‘ = ‘ref_start_date‘ and ‘ref_end_date‘ is not specified	man/warn_if_vars_exist.Rd
a warning is issued when using ‘derive_var_basec()‘	man/warn_if_vars_exist.Rd
derive_var_age_years works as expected	man/warn_if_vars_exist.Rd
‘target‘ is set to ‘Y‘ when ‘start_date‘ is NA	man/warn_if_vars_exist.Rd
‘target‘ is set to NA when ‘end_date‘ is missing and ‘start_date‘ is before ‘ref_start_date‘ a la Roche	man/warn_if_vars_exist.Rd
Derive DCSREAS using default mapping	man/warn_if_vars_exist.Rd
Derive RANDDT from the relevant ds.DSSTDTC	man/warn_if_vars_exist.Rd
‘target‘ is set to ‘Y‘ when ‘end_date‘ > ‘ref_start_date‘ when ‘start_date‘ is missing	man/warn_if_vars_exist.Rd
ADY is added	man/warn_if_vars_exist.Rd
‘target‘ is set to ‘NA‘ if a baseline record is missing	man/warn_if_vars_exist.Rd
derive_agegr_ema - works with age_unit missing and multiple units in AGEU (pediatric)	man/warn_if_vars_exist.Rd
only the ‘target‘ variable is added to the input dataset	man/warn_if_vars_exist.Rd
a warning is issued when specifying ‘derive_var_ontrfl(date =)‘	man/warn_if_vars_exist.Rd
ASTDY is added	man/warn_if_vars_exist.Rd
‘target‘ is set to Y when ‘end_date‘ is missing and ‘start_date‘ is before ‘ref_start_date‘ a la GSK	man/warn_if_vars_exist.Rd
Ignore Seconds Flag remove the Seconds Flag, S, from XXDTF variable when set to TRUE	man/warn_if_vars_exist.Rd
derive_agegr_fda works with age_unit missing and multiple units in AGEU	man/warn_if_vars_exist.Rd
a warning is issued when using ‘derive_baseline()‘	man/warn_if_vars_exist.Rd
An error is thrown if a subject has multiple records per ‘PARAMCD‘ and ‘Basetype‘	man/warn_if_vars_exist.Rd
‘target‘ is set to ‘source‘ where ‘ABLFL == ‘Y‘‘	man/warn_if_vars_exist.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets, partial dates	man/warn_if_vars_exist.Rd
a warning is issued when using ‘derive_disposition_reason()‘	man/warn_if_vars_exist.Rd
a warning is issued when a variable to be derived already exists in the input dataset	man/warn_if_vars_exist.Rd
a warning is issued when using ‘derive_disposition_status()‘	man/warn_if_vars_exist.Rd
LSTALVDT and traceability variables are derived	man/warn_if_vars_exist.Rd
Derive DTHDT from the relevant ds.DSSTDTC, impute partial death dates with 1st day/month	man/warn_if_vars_exist.Rd
AENDY is added	man/warn_if_vars_exist.Rd

Table 4: Traceability matrix mapping unit tests to documented behaviours. *(continued)*

Test Description	Documentation
No re-derivation is done if <code>-DTF</code> variable already exists	man/warn_if_vars_exist.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59	man/warn_if_vars_exist.Rd
Ignore Seconds Flag is not used when not present in the function call	man/warn_if_vars_exist.Rd
<code>derive_vars_disposition_reason</code> checks <code>new_var_spe</code> and <code>reason_var_spe</code>	man/warn_if_vars_exist.Rd
<code>derive_agegr_ema</code> works as expected	man/warn_if_vars_exist.Rd
<code>derive_agegr_ema</code> works with <code>age_unit</code> missing and multiple units in AGEU (adults)	man/warn_if_vars_exist.Rd
'target' is set to NA when 'end_date' < 'ref_start_date' regardless of <code>start_date</code> being NA	man/warn_if_vars_exist.Rd
<code>derive_agegr_ema</code> - works as expected	man/warn_if_vars_exist.Rd
Function throws ERROR when Ignore Seconds Flag is invoked and seconds is present in the data	man/warn_if_vars_exist.Rd
Derive ATIREL	man/warn_if_vars_exist.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'start_date' <= 'ref_end_date' + 'ref_end_window'	man/warn_if_vars_exist.Rd
DTHCAUS and traceability variables are added from AE and DS	man/warn_if_vars_exist.Rd
a warning is issued when using <code>'derive_duration()'</code>	man/warn_if_vars_exist.Rd
a warning is issued when using <code>'derive_age()'</code>	man/warn_if_vars_exist.Rd
DTHCAUS is added from AE and DS	man/warn_if_vars_exist.Rd
Ignore Seconds Flag is not used when set to FALSE in function call	man/warn_if_vars_exist.Rd
Derive EOTSTT using a study specific mapping	man/warn_if_vars_exist.Rd
DTHCAUS/traceability are added from AE and DS, info available in 2 input datasets	man/warn_if_vars_exist.Rd
'target' is set to 'Y' when 'start_date' >= 'ref_start_date' and 'ref_end_date' and 'filter_pre_timepoint' are not specified	man/warn_if_vars_exist.Rd
LSTALVDT is derived	man/warn_if_vars_exist.Rd
<code>derive_agegr_fda</code> works as expected	man/warn_if_vars_exist.Rd
<code>call_derivation</code> works	man/warn_if_vars_exist.Rd
'dthcaus' handles symbols and string literals correctly	man/warn_if_vars_exist.Rd
Convert a complete - DTM into a date object	man/warn_if_vars_exist.Rd
Convert a complete - DTM into -TM, TM out is HH:MM:SS	man/warn_if_vars_exist.Rd
Derive EOSSTT using default mapping	man/warn_if_vars_exist.Rd
a warning is issued when a variable to be derived already exists in the input dataset	man/warn_if_vars_exist.Rd
Partial date imputed to the last day/month, Missing time part imputed with 23:59:59, no imputation flag	man/warn_if_vars_exist.Rd
Partial date imputed to the last day/month	man/warn_if_vars_exist.Rd
Partial date imputed to the last day/month, no DTF	man/warn_if_vars_exist.Rd
default: no date imputation, time part set to 00:00:00, add DTF, TMF	man/warn_if_vars_exist.Rd

4.3.2 Untested

Table 5: Untested behaviours: documentation that is not covered by any test.

Exported package object	Documentation
<code>assert_character_scalar()</code>	<code>man/assert_character_scalar.Rd</code>
<code>assert_character_vector()</code>	<code>man/assert_character_vector.Rd</code>
<code>assert_data_frame()</code>	<code>man/assert_data_frame.Rd</code>
<code>assert_has_variables()</code>	<code>man/assert_has_variables.Rd</code>
<code>assert_integer_scalar()</code>	<code>man/assert_integer_scalar.Rd</code>
<code>assert_list_element()</code>	<code>man/assert_list_element.Rd</code>
<code>assert_list_of()</code>	<code>man/assert_list_of.Rd</code>
<code>assert_logical_scalar()</code>	<code>man/assert_logical_scalar.Rd</code>
<code>assert_numeric_vector()</code>	<code>man/assert_numeric_vector.Rd</code>
<code>assert_one_to_one()</code>	<code>man/assert_one_to_one.Rd</code>
<code>assert_order_vars()</code>	<code>man/assert_order_vars.Rd</code>
<code>assert_s3_class()</code>	<code>man/assert_s3_class.Rd</code>
<code>assert_symbol()</code>	<code>man/assert_symbol.Rd</code>
<code>assert_unit()</code>	<code>man/assert_unit.Rd</code>
<code>assert_vars()</code>	<code>man/assert_vars.Rd</code>
<code>assert_varval_list()</code>	<code>man/assert_varval_list.Rd</code>
<code>call_derivation()</code>	<code>man/call_derivation.Rd</code>
<code>dataset_vignette()</code>	<code>man/dataset_vignette.Rd</code>
<code>derive_extreme_flag()</code>	<code>man/derive_extreme_flag.Rd</code>
<code>derive_param_exposure()</code>	<code>man/derive_param_exposure.Rd</code>
<code>derive_var_age_years()</code>	<code>man/derive_var_age_years.Rd</code>
<code>derive_var_agegr_ema()</code>	<code>man/derive_var_agegr_fda.Rd</code>
<code>derive_var_agegr_fda()</code>	<code>man/derive_var_agegr_fda.Rd</code>
<code>derive_vars_last_dose()</code>	<code>man/derive_vars_last_dose.Rd</code>
<code>derive_worst_flag()</code>	<code>man/derive_worst_flag.Rd</code>
<code>desc()</code>	<code>man/reexports.Rd</code>
<code>exprs()</code>	<code>man/reexports.Rd</code>
<code>get_many_to_one_dataset()</code>	<code>man/get_many_to_one_dataset.Rd</code>
<code>get_one_to_many_dataset()</code>	<code>man/get_one_to_many_dataset.Rd</code>
<code>params()</code>	<code>man/params.Rd</code>
<code>suppress_warning()</code>	<code>man/suppress_warning.Rd</code>
<code>use_ad_template()</code>	<code>man/use_ad_template.Rd</code>
<code>vars()</code>	<code>man/reexports.Rd</code>
<code>warn_if_inconsistent_list()</code>	<code>man/warn_if_inconsistent_list.Rd</code>
<code>warn_if_invalid_dtc()</code>	<code>man/warn_if_invalid_dtc.Rd</code>

4.3.3 Testing granularity

An indicator of test granularity by whether the function is directly tested.

Table 6: Granularity of unit tests: directly tested exported functions.

Exported package object	Tested Directly
<code>assert_character_scalar()</code>	FALSE
<code>assert_character_vector()</code>	FALSE

Table 6: Granularity of unit tests: directly tested exported functions. *(continued)*

Exported package object	Tested Directly
assert_data_frame()	FALSE
assert_filter_cond()	TRUE
assert_has_variables()	TRUE
assert_integer_scalar()	FALSE
assert_list_element()	FALSE
assert_list_of()	FALSE
assert_logical_scalar()	FALSE
assert_numeric_vector()	FALSE
assert_one_to_one()	FALSE
assert_order_vars()	FALSE
assert_param_does_not_exist()	FALSE
assert_s3_class()	FALSE
assert_symbol()	FALSE
assert_unit()	FALSE
assert_valid_queries()	TRUE
assert_vars()	FALSE
assert_varval_list()	FALSE
call_derivation()	TRUE
cancel_source()	TRUE
compute_bmi()	TRUE
compute_bsa()	TRUE
compute_dtf()	TRUE
compute_duration()	TRUE
compute_map()	TRUE
compute_qtc()	TRUE
compute_rr()	FALSE
compute_tmf()	TRUE
convert_blanks_to_na()	TRUE
convert_date_to_dtm()	TRUE
convert_dtc_to_dt()	TRUE
convert_dtc_to_dtm()	TRUE
dataset_vignette()	FALSE
default_qtc_paramcd()	FALSE
derive_aage()	TRUE
derive_agegr_ema()	FALSE
derive_agegr_fda()	FALSE
derive_baseline()	TRUE
derive_derived_param()	FALSE
derive_disposition_dt()	TRUE
derive_disposition_reason()	TRUE
derive_disposition_status()	TRUE
derive_duration()	TRUE
derive_extreme_flag()	TRUE
derive_last_dose()	TRUE
derive_obs_number()	TRUE
derive_param_bmi()	TRUE

Table 6: Granularity of unit tests: directly tested exported functions. *(continued)*

Exported package object	Tested Directly
derive_param_bsa()	TRUE
derive_param_doseint()	FALSE
derive_param_exposure()	TRUE
derive_param_map()	TRUE
derive_param_qtc()	TRUE
derive_param_rr()	FALSE
derive_param_tte()	TRUE
derive_params_exposure()	TRUE
derive_query_vars()	TRUE
derive_summary_records()	TRUE
derive_suppqual_vars()	TRUE
derive_var_ady()	TRUE
derive_var_aendy()	TRUE
derive_var_age_years()	FALSE
derive_var_agegr_ema()	FALSE
derive_var_agegr_fda()	FALSE
derive_var_anrind()	FALSE
derive_var_astdy()	TRUE
derive_var_atirel()	TRUE
derive_var_base()	TRUE
derive_var_basec()	TRUE
derive_var_basetype()	TRUE
derive_var_chg()	TRUE
derive_var_disposition_dt()	TRUE
derive_var_disposition_status()	TRUE
derive_var_dthcaus()	TRUE
derive_var_extreme_flag()	TRUE
derive_var_last_dose_amt()	TRUE
derive_var_last_dose_date()	TRUE
derive_var_last_dose_grp()	TRUE
derive_var_last_dose()	TRUE
derive_var_lstalvdt()	TRUE
derive_var_obs_number()	FALSE
derive_var_ontrfl()	TRUE
derive_var_pchg()	TRUE
derive_var_trtdurd()	TRUE
derive_var_trtedtm()	TRUE
derive_var_trtsdtm()	TRUE
derive_var_worst_flag()	TRUE
derive_vars_aage()	FALSE
derive_vars_atc()	TRUE
derive_vars_disposition_reason()	TRUE
derive_vars_dt()	TRUE
derive_vars_dtm_to_dt()	TRUE
derive_vars_dtm_to_tm()	TRUE
derive_vars_dtm()	TRUE

Table 6: Granularity of unit tests: directly tested exported functions. *(continued)*

Exported package object	Tested Directly
derive_vars_duration()	TRUE
derive_vars_last_dose()	TRUE
derive_vars_query()	TRUE
derive_vars_suppqual()	TRUE
derive_vars_transposed()	TRUE
derive_worst_flag()	FALSE
desc()	FALSE
dthcaus_source()	TRUE
event_source()	TRUE
expect_dfs_equal()	TRUE
exprs()	FALSE
extend_source_datasets()	FALSE
extract_duplicate_records()	TRUE
extract_unit()	FALSE
filter_date_sources()	FALSE
filter_extreme()	TRUE
filter_if()	FALSE
format_eoxstt_default()	FALSE
format_reason_default()	FALSE
get_duplicates_dataset()	TRUE
get_many_to_one_dataset()	FALSE
get_one_to_many_dataset()	FALSE
impute_dtc()	TRUE
list_all_templates()	TRUE
lstalvdt_source()	TRUE
negate_vars()	TRUE
params()	FALSE
signal_duplicate_records()	TRUE
suppress_warning()	FALSE
use_ad_template()	TRUE
vars()	FALSE
vars2chr()	FALSE
warn_if_inconsistent_list()	FALSE
warn_if_invalid_dtc()	FALSE
warn_if_vars_exist()	TRUE